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LOGIC AND EVOLUTION.

By P. H. Partridge, B.A.,
Lecturer in Philosophy, University of Sydney.

In the "Origin of Species", Darwin advanced the theory of evolution as being no more than what it actually is—an attempt to account for certain facts in the field of biology. That variations within species do occur, and that some species or subspecies survive while others perish, constitute real problems for the biologist, and it may be that the hypothesis of natural selection suggests the explanation of some of them. But the appearance or disappearance of species, and the occurrence of variations in organisms create no new problems for logic, and the recognition of these facts by biologists does not imply, as many evolutionists suggest, that logic must be rewritten. All that evolution points to is that at certain times new species occur and that these are genuinely new, and not capable of being explained in terms of any pre-existing things. In other words, different things separated in time as well as in space cannot be reduced to any fundamental identity. When the matter is stated in this way, it becomes clear that evolution has brought to light nothing of which logicians were not fully aware, the whole point in empirical logic, as opposed to idealism, being the insistence upon the fact that things do differ from one another and no attempt to reduce them to a single fundamental reality can ever succeed. And, similarly, the organism, or life, or mind, or personality, since they are spatio-temporal events, have no peculiar logical characters; so far as logic is concerned no special account need be taken of them. Thus, evolution, in demonstrating that organisms differ and that a particular organism may undergo changes—in short, that they are simply spatio-temporal—has not disturbed logic by the discovery of any new category, although, of course, in insisting upon the reality of genuine development, it has strengthened the case of empiricism, and dealt a blow at idealism in its last stronghold—mind.

The questions raised by evolution are of interest, therefore, to biologists alone, and it is only when the attempt is made to produce an 'evolutionary logic' that the logician becomes involved. Logic has always recognized that different things have characters of their own; that things are in process, in the course of which they lose some characters and acquire others (how, otherwise, could we speak of change, or even of time, at all?) and that things are complex, having parts and being themselves parts of other things. Moreover, the very possibility of logic, of the study of things as they occur in propositions, depends upon the recognition that any complex is a *particular* complex, possessing characters of its own, not to be found in any single one of its parts—*i.e.,* in other complexes. It would be a negation of the proposition to assert that the whole is identical with one of its parts, or (which amounts to the same thing) with all its parts—the fact that anything at all can serve as the subject of a proposition shows that all things, and not merely organisms, are to be treated as particular wholes, and that the organism is not, therefore, logically in a class apart. And yet we find Smuts declaring, in "Holism and Evolution", that "there is a Metaphysic or Logic of Holism still to be written, which will lay bare the ultimate ideas involved and their relations and validity". If the theory of Holism requires that logic should be revised, that is so much the worse for Holism. But, furthermore, it is not difficult to show that no possible logic of Holism could ever be written, since the theory involves the reconciliation of two opposed logical positions.

This is true not only of Holism but of the more general theory of Emergence. Emergence must begin, in the first place, by attacking all forms of pre-formationism and monism. If it is true that things genuinely develop, that at a later stage of a process they exhibit characters that they did not possess earlier, we cannot retain the view that the effect is equivalent to the cause, or to be found in it. Again, the attempt to treat things monistically, as being aspects or attributes of the One, cannot be maintained together with an evolutionary theory, for even when the One is conceived as developing (as, *e.g.,* with Bergson's 'Dieu qui se fait'), still it is the same Reality that is always making *itself,* and is either essentially the same in all its phases, or is not the one Reality. In attacking monism, then, evolutionary theories are on sound ground, and evolution, while adding nothing to logic, has, as we saw, strengthened that logic which opposes pre-formationism. But it is because many evolutionists do not recognize that what they are destroying is not logic as a whole, but simply one false logical doctrine, that they are incapable of developing their theories consistently and are in opposition to any possible logic. This playing fast and loose with logic is very obvious in Smuts' book, where Smuts both rejects and defends pre-formationism, shows monism to deny evolution and then outlines an evolutionary theory which is capable of realizing 'the ideal of all science'—the monistic interpretation of 'the universe'. In the face of such inconsistency, it is clear that by Smuts, at least, the logical significance of evolution has not been grasped, while a statement of a few simple logical facts is fatal to much popular evolutionary "science".

The same sort of logical nihilism is found in the notion of emergence. Now, if emergence is intended to convey the plain fact that there is always something in the effect not to be found in the cause, then that is merely a new name for a fact already recognized. In logic, then, there is no place for the new term and emergence refers not to a special character of certain things, but indicates what happens in every case of causation. But where, on the other hand, it is implied that the use of the term is significant of a special process, it follows that some causation is emergent and some not, and so we return again to pre-formationism, even though an attempt is made to distinguish between that causation which is emergent and that which is not. Such a theory does certainly necessitate a new logic or metaphysic, and not merely one to replace the old, but one to complement the logic of pre-formationism. Emergence, as a logical theory, involves the acceptance of the Hegelian notion of the developing logic and the succession of 'view-points' and, thus, the denial of a genuine logic altogether; for taking logic to be the study of things in so far as they are real, and assuming real differences to imply different sorts of reality, then there will be not one science of reality, but as many as there are classes, or 'levels', of being.

What theories of emergence do not commonly recognize, then, is that either emergence simply means causation, or else it is a particular sort of causation, in which case a defence of pre-formationism, at least as regards certain classes of things, is required. And it is no less difficult to show that *some* effects are to be found in their causes than to show that this is always the case: the refutation of this theory of causation, suggested by Hume, cannot be avoided by any attempt to limit the scope of its operation. But if, in order to justify evolution and to account for emergence, both kinds of causation—pre-formationism and emergence—are accepted, there is the special difficulty of showing how pre-formative causation ceases to operate and emergence comes into play. In point of fact, of course, no such reconciliation or explanation is possible and so, for theories of emergence, the contradiction cannot be met. The theory of pre-formationism simply means that the effect is deducible from the cause alone, or is necessitated by the cause, it being the nature of a particular cause to produce just such an effect. If, then, it is the nature of A to produce the one effect B, when A 'transcends itself' by producing C, it is not acting according to its nature, but according to some other nature that is not its. Hence, the assumption that a thing both necessitates and creates implies that it is both itself and not itself, and this difficulty can be met not by any revision of logic, but, if we are unwilling to give up the notion of emergence as a special and peculiar occurrence, by the invention of some higher, mythological power asserting itself through the cause.

The need for such a mythological power is supplied by Driesch's 'Entelechy', by Lloyd Morgan's 'God', Whitehead's 'Organic Mechanism', Smuts' 'Holism', and, in popular thought, by 'evolution'. Smuts exhibits the confusions of the 'emergence' logic very plainly. Thus, despite the fact that he begins with some sound criticism of what he calls the '19th century theory of causation' that the effect is equal to the cause, he is himself compelled to return to mechanism or monism to give meaning to his argument that the universe as a whole is developing towards higher categories or greater and more perfect degrees of wholeness; that things are not simply complexes with different characters, but that they reveal a different *sort* of complexity. "Under the physical system", he says, "the effect equals the cause and is completely determined by the cause. Causa = effectum. But we have seen how this formula disappears before creative Holism; how the effect comes to contain the new, and, therefore, to transcend the cause. The element of newness, of novelty in the holistic order of the world, means a release from the complete bondage of matter and its causality and necessity."

Now it is, of course, by a pure misconception that there is assumed to be any necessity controlling matter and the peculiarity of emergence or Holism is established only by misrepresenting the nature of causation. When it is recognized that we can never deduce the effect from the cause and that we can study things only in their spatio-temporal character as phases of processes, it follows that there is no necessity governing matter and no special force or factor, Holism or anything else, responsible for the emergence of higher levels.

We do have definite occurrences and lines of development; we can observe the succession of phases, but there is no 'explanation' of these processes beyond the fact that they occur, that they are processes characterized by their having certain phases, just as there is no possible 'explanation' of a thing beyond the fact that it is what it is, that it has its particular characters. There is, then, no question of any necessity for physical things or processes, beyond the necessity implied by the fact that they do actually occur, and we must dispense both with physical or causal 'necessity', and the 'necessity' of special forces expressing themselves through things. Evolution would then be accounted for logically by saying that there actually occur certain processes, the later stages of which are different from the earlier. In other words, we find the facts only; any attempt to 'explain' them by the invention of an evolutionary or holistic factor, asserting itself in the universe, is rationalistic and cannot be sustained.

The confusions in the evolutionary theory of Smuts, for example, arise from his rationalistic assumptions, and particularly from his prepossession with this notion of necessity. Both as regards physical or mechanistic causation and emergence, Smuts assumes, as we saw, that there is some relation between cause and effect apart from the plain fact that the cause does produce the effect; that they happen to be phases of the same process. Now, as for the attempt to show that B is necessarily the consequent of A, or that B is *logically* entailed by A, because 'reality is such that' that must be so, it has only to be pointed out that no distinction can be drawn in the proposition between things that actually and those that necessarily occur. The distinction is equivalent to that made between different levels of being, between the different meanings of the copula; such a distinction can never, in fact, be made because we have always to use the word to be defined. Thus, even in saying that A is necessarily B, we are implying that A is actually necessarily B, the necessity prevailing between the terms being an actual fact. And if, following the theory of modality, actuality represents a less compulsory, more contingent type of relatedness than necessity, all we are really asserting, then, is that the necessity of A's being B is not a necessary fact, but could easily be otherwise without disturbing the whole of reality. And if it might, or might not, be necessary for A to be B, then A might or might not be B—there is no logical compulsion, the decision being in the hands of actual fact. In order to establish any *logical* necessity between a cause and an effect, we should require to be capable of showing that A was necessarily . . . . . . necessarily B: a contention that obviously could never be proved. The only possible conclusion to be drawn is that there is no logical or formal necessity as between cause and effect; it is never the *nature* of any cause to produce just such an effect, and never the nature of "reality" for certain causes to be followed by definite effects. That causes of a particular kind are followed by certain effects is simply a fact; we have, in other words, definite and determinable processes, possessing certain phases, and we can only recognize these processes as they are: there is no possibility of going beyond them to a hidden logical power, necessity or reality.

If, then, it is agreed to confine the use of 'evolution' to mean certain particular processes that have occurred in history (*i.e.,* those processes in the course of which life has succeeded non-living things and minds have succeeded the non-mental), it still must be remembered that it is one particular process, similar to any non-evolutionary process in that its phases are distinct from one another, and differing from it only in this—that its phases, the things that make it one particular, recognizable process are not the same as the phases of the latter. But there is no possibility of distinction between processes on the ground of their supposed necessity, or creativeness. Of course, if whatever exists in 'the universe' at this moment is necessary, what does not is not necessary, and what comes into existence in the future is not a necessary part of this moment's cosmos. In this sense, there is no gainsaying the fact that the 'universe' is continually adding to itself, or creating. But this does not prove that the 'universe' does transcend itself, or develop in a way that is not necessitated, by rising to ever higher levels; it proves on the contrary that there is no 'universe'; since things are becoming at every moment what they were not before, there can never be any description given of the supposed cosmos, except in terms of the processes that are going on. This, then, is the point that it is important to keep clear, that there is no single nature of things according to which they act, or by which they are necessitated, and which, in cases of emergence, fails to operate. All we can say of things is that they are in process, and that evolution, while, perhaps, it is one particular process, is not one of a special sort, and, more especially, is not a metaphysical 'vera causa' exerting itself through things and compelling them to act in a way that it is not usually their nature to act. It is not the business of philosophy to reach for 'necessities' or 'forces' or 'rationes', since the 'ratio', even if it were discoverable, would be so only because it is a particular recognizable thing, with characters of its own, and thus incapable of standing as the 'ratio' of any other thing, still less of all things.

Since, therefore, there is no particular necessity 'binding' cause and effect apart from the plain fact that they are phases of the same process, and are not phases of other processes; since the effect is not even sometimes deducible from the cause, is not logically involved in the cause, there is, then, no place in logic for any special factor or 'force', the function of which is to relieve the 'bondage of necessity'. Thus, Smuts says: "Evolution traces the grand line of escape from the prison of matter to the full freedom of the spirit", and, elsewhere, that: "Holism is the inner driving force behind that progress." But if Holism is a force acting upon and through things, no account of it can ever be given. It is true that he does attempt an account of it; but he can do so only by showing that there are actual processes of which the later phases differ from the earlier; his whole argument simply consists in the elaboration of the statement that things do develop and that the end is never present in the beginning, but has characters that the beginning does not possess. But this is not sufficient to prove the case. If Holism is no more than a type of process that occurs, it means no more than this, that causes of certain kinds produce certain effects: it does not reveal any peculiar necessity or force acting upon the cause. Yet, on the other hand, Holism must be taken as a factor operating through things instead of being merely a thing or process itself, if we are to adhere to the notion of things as transcending themselves, escaping their physical necessities and disabilities. If it is said to be necessary for A to become B, and it becomes C instead, then either we were wrong in assuming that necessity, or else there is some more potent necessity operating. And this more potent necessity is something that is more fundamental not only than actual fact, for A's generally becoming B is the fact, but even more fundamental than logic since the necessity prevailing between A and B is a logical necessity—it is A's nature, as a physical thing, to become B. A's becoming B is involved in A's being A. Thus Holism does require a special logic; one that can show that it is both A's nature to be A, and to be not-A. The only possible way in which this can be done, then, is by showing it to be the vehicle of some metaphysical force, or 'vera causa' acting through it; but this force itself cannot be a specific thing, since in that case we should be asserting A to be identical with something different from it, and more especially because this force is supposed to act through all things, and could scarcely be identified with the whole spatio-temporal order of things without our abandoning altogether the idea of a genuine evolution, and returning to absolute idealism—a position which Smuts, at least, specifically repudiates. Thus Holism cannot be accounted for as a determinate thing, or process, and Smuts' assertion, that "Holism is a specific tendency, with a definite character", is not sufficient to cover up the difficulty.

We cannot, then, distinguish between processes of a logically different sort, nor hope to discover any fundamental process operating beneath, and giving direction to, the multiplicity of processes that can be observed to be going on. This is, of course, equivalent to the rationalistic attempt to find an essence of things, an attempt which is defeated by the fact that if it were genuinely an essence, no account could be given of it, nor would it be recognizable, for that reason. Similarly, we can give an account of a process in terms of its phases—in terms of the fact that A is succeeded by B and B by C, and if processes are characterized by their phases, since phases are particular things, processes must be similarly particular. In the case of Holism, Smuts disguises the logical issue by making an illegitimate distinction between things that are wholes, and those that are either not wholes, or not such perfect wholes, and thus, while there are many particular processes, or lines of development, all processes are of the one general kind—holistic—from non-wholes to wholes. But quite apart from the fact that anything, as we have seen, that can be predicated of, is a whole in the same sense, some of its characters not being present in any of its parts, there is this point also that even if we admit that there are non-wholes, as well as wholes, there will still be two general sorts of process—from non-wholes to non-wholes and from non-wholes to wholes—and no possible argument can show that one is more fundamental than the other, or represents the prevailing tendency in the cosmos. What would have to be done, of course, is to show that the former process is normal and necessitated; that the latter is 'free', and outside necessity, but the problem would be to explain why the necessity that prevails in the physical realm (the realm of non-wholes) should be abrogated by the stronger necessity. The multiplying of categories (like 'freedom' or 'wholeness') gives no explanation; we can only appeal to what actually happens, and what actually happens informs us merely that certain things become other things; it demonstrates neither the operation of a physical necessity, nor, consequently, the suspension of that necessity by any more fundamental principle. All we can say, then, is that we have various processes and we are not entitled to go behind these to a supposed guiding force.

There is in Whitehead the same employment of a mythological power and the same insistence upon its substantial nature. "The doctrine (*i.e.*, of 'organic mechanism') cries aloud for a conception of organism as fundamental for nature. It also requires an underlying activity—substantial activity—expressing itself in individual embodiments, and evolving in achievements of organisms." But any specific activity is a spatio-temporal process and a process can no more be described as something that runs through and moves the phases than one thing can be described as the 'ratio' or essence of another. The phases, succeeding one another, constitute the process; there is no process behind the phases just as there is no underlying reality to which the predicates of things are attached. We cannot, then, speak of a process as realizing itself through the phases, or of the phases being carried along by the process: such a process could have no characters apart from its phases and could not, then, be substantial. It is equally absurd to speak of processes developing, as Whitehead does ("accordingly, nature . . . is a structure of evolving processes"), since the evolving, the thing becoming another thing, *is* the process. We do not have, therefore, new sorts of processes appearing to take charge of things, but simply the occurrence of new things, and this occurrence of new things is the new process. Thus, whatever may be the reason for the appearance of any novelty, we cannot intelligibly assume any underlying process, distinct from things but controlling them: there is no distinction between things and processes and the recognition of this fact is the starting-point for logic and for science.

Whatever pretence evolutionists may make of defending novelty, so long as they are occupied with the search for a pre-determining factor, a basic necessity, they cannot avoid the acceptance of a static and indivisible One which is the only logical outcome of rationalism. Pseudo-categories, like freedom, creativeness, selectiveness, and the rest, are of no use in establishing the reality of genuine development so long as it is assumed that that development is necessitated from the beginning. Freedom can only mean that things have the capacity to transcend themselves, to become what it is not really their nature to become; and while, for an empiricist, there is no difficulty in admitting that things can become what it is not logically necessary for them to become, that they can become, in fact, anything that they actually do become, this rejection of logical necessity is not consistent with any theory of a single-track, progressive development. If the evolution of things is not controlled by the one 'law' or 'reality', then there is no single development, but instead a number of different things differently developing. If the cosmos is evolving through successive stages, it is the nature of the cosmos (*i.e.,* of reality) so to evolve, and the law, or nature of the cosmos will be distinct from its evolution. For theories of cosmic evolution do not deny that there are, at least superficially, different things, going their own way, and unless there is one common principle of development, apart from the particular 'goings' of particular things, there is no cosmos. It is difficult, then, to see how freedom, or creativeness, can develop at any stage, for, admitting that an 'emergent' may free itself from the bondage of 'physical necessity', it is still controlled by that higher necessity—the bondage imposed upon it by the cosmos; by the necessity of developing as the cosmos compels. It is, again, inconsistent for Smuts to argue that the organism "is self-acting and self-moving. Its principle of movement or action is not external to itself, but internal. . . . The source of its action is internal and of a piece with itself, is indeed itself." This does not establish, but denies, the possibility of genuine evolution as an historical fact; for unless a thing is a stage of a process, and limited by the fact that it is a stage of that particular process, and can be succeeded only by certain other stages, then it is not in a process at all and not, therefore, evolving. Being a portion of a definite process which is characterized by *all* its phases, a thing cannot be 'free': it has the nature, the history and the future that its connection with this process, and with others which it encounters, implies, and while there is no necessity underlying things, yet things are controlled by the necessity that arises from their being actually the case. There is, in fact, no possibility of making things 'free' by separating them from their temporal environment, of the past and of the future, without at the same time denying that they are evolving, and the notion of the single, cosmical progress brings out the contradiction even more clearly.

To physical, or logical, necessity it is not possible, then, to oppose 'Freedom' while retaining a theory of evolution. While evolution is a process or force carrying things along, things can be neither free nor creative. They are themselves created by the fundamental necessity. This point is brought out by Hegel's treatment of Freedom as equivalent to self-consciousness, the realization by mind of its potentialities, and its self-willed development of those potentialities. A thing's potentialities are simply its characters considered in their temporal relationships; a thing has in it to become only what similar things under similar circumstances do actually become. We can speak of the potentialities of a thing, then, because we know what things of the same kind have become in the past, and the sequence is of the same type whether the process is one of willing or not. But the notion of potentiality is introduced, of course, as a means of preserving, within the one theory, the two inconsistent ideas of necessity and 'Freedom'. If there is a definite, universal evolution, the development of all individual things must exhibit it and their development is, therefore, necessitated; but, on the other hand, there is *real* development, and effects are not deducible from their causes. Thus, potentiality appears as a special kind of necessity: the effect is not in the cause, but the cause is pre-determined by the effect. Now, quite apart from the familiar arguments against teleology, it need simply be pointed out that this view, like all rationalistic positions, is again opposed to novelty and evolution. There is no logical distinction between saying that the end is necessitated by the beginning and that the beginning is necessitated by the end; before we can say that a thing is necessitated at all, we must know that there is something, already fully constituted, that necessitates it, and all development is simply irrelevant so far as the last phase is concerned: its nature cannot be affected. There is no sense in which it can be said that any development is *its* development, or that in knowing a process, we are getting to know *it*.

But the point here, so far as evolutionism is concerned, is this: if we reject pre-formationism as failing to do justice to emergence, and if we still wish to retain the notion of things as necessitated, and of there being a single evolutionary process, affecting all things, then potentiality is the only kind of necessitation that is still available. Yet even potentiality is opposed to real evolution, as we saw, as well as to 'Freedom', and the only alternative, then, is to abandon the entire doctrine of necessity, of single development, or evolution of things, recognizing instead that the only necessity determining processes is the fact that processes with various definite characters actually occur. This dilemma, as regards potentiality, in theories of emergence, is again brought out very plainly by Smuts. For while he can see that "Potentiality presupposes that the real creative work is already done", when he comes to describe more particularly the holistic development of organisms, he can account for that 'free' development only as "the realization of the potentialities which it [the organism] holds as the seeds of the future". And this, of course, is the only account of holism, and of emergence, that can be given; unless the whole is fully determined by its future states, which are themselves already fully determined, or else by its past states, and so, in no way novel as compared with them, it will not be completely determined at all, and there will be no necessity operating upon it, no evolutionary force that it is constrained to obey. To avoid these confusions, therefore, we should have to deny that there is any possible necessity, or explanation of facts apart from their being what they are, with an insistence upon the fact that this applies as much to whole processes as to any particular phase of a process.

The emphasis placed upon the evolutionary development of things by biologists is, then, of no significance for logic, except in so far as it shows that rationalism, besides being logically incoherent, is not in accord with the facts. That men like Smuts should attempt to produce a rationalistic evolutionism shows that the meaning of evolution has not been properly understood. Things are processes, and as evolution shows that there is no fundamental, unchangeable reality behind things, so there is no universal force behind processes; there are simply numbers of different processes. There is no logical necessity requiring a thing to act as it does, except the fact that it does act so: the process is so constituted. Of evolution we should say, then, that while it can be admitted that effects are never found in their causes, and, in that sense, all things evolve, there is no universal evolutionary process directing all things to emerge at last into the final and indivisible One, or to subsist eternally in it. Since things differ, and since they are themselves successive (*i.e.,* are processes), there is no such single process. We can, if we choose, use evolution to signify simply 'process', or, if we prefer it, to indicate one particular process, distinguished by the phases that constitute it. But it is not a 'vera causa'; it is neither a logic, nor a 'view-point'.

FOUR MEN TALK ABOUT GOD.

By R. P. ANSCHUTZ, M.A., Ph.D.,
Lecturer in Philosophy, University College, Auckland, New Zealand.

II.

Atheist.—The trouble with Theism, I repeat, is that it has to start with various statements about the things of this world and it has to finish by denying the truth of all those statements. It appears finally that there is only one subject about which true statements can be made at all. And that is God.

Catholic.—And I repeat, Atheist, that that is not true so far as Christianity is concerned. Whatever the position is in Platonism or Spinozism or Calvinism or Hegelianism, the independent existence of the things of this world is not denied by Christianity.

Atheist.—Well, if it isn't, it ought to be. That is the logical outcome of any Theism.

Catholic.—It is no use repeating all that again. Nothing you say can possibly sound convincing to a Christian until you are prepared to consider Christianity on its own merits. And you can only do that by starting at the beginning with the *Christian* reasons for believing in the existence of God.

Protestant.—Well, I don't believe that it is any use discussing the proofs of the existence of God any further. Christianity is a religion—not a philosophy, and not even a theology. Theology is only an attempt to give an account of religion, just as physiology is an attempt to give an account of the body. And just as it would be absurd to suppose that the existence of the body is denied by the inadequacies of physiology, so it is absurd to suppose that the reality of religion is denied by the inadequacies of theology. Religion is a fact which cannot be denied merely because it has not yet achieved a foolproof philosophical statement. And so I don't believe that you are starting at the beginning of Christianity by starting with the consideration of the proofs of the existence of God. I don't believe that there is any point at all in trying to prove the existence of God in an impersonal, metaphysical way. Even if you were to succeed, it wouldn't help you to incline the hearts and lives of men to religion. And that, after all, is the only thing that matters.

Catholic.—I agree, of course, that it is necessary to distinguish between the practice of religion and the theory of theology. But I cannot agree that therefore all theological and philosophical discussion is useless. I cannot see how a man's practice can be sound unless his theory is sound. And I cannot see how a man can practise religion, or anything else, without some theory. How *can* you incline a man's heart to religion while he persists in denying the existence of God—the unique object of religion?

Protestant.—Well, I don't believe that anybody has ever really denied the existence of God in his heart. But if he persists in saying that he does, like Atheist, I would tell him that he doesn't know what he is denying—that he is ignorant of the true nature of God. Everybody, at some time or another, feels that his life is worth while—that he is doing what is right and enjoying what is good. I would remind him of these experiences and tell him that, then, he has been experiencing God.

Atheist.—And suppose he doesn't believe you?

Protestant.—How can he fail to believe me? He will know what these experiences mean to him. He cannot doubt that they represent the highest and best in life. How can he doubt, then, that they are manifestations of God?

Atheist.—Quite easily, I should think. He may doubt whether they are manifestations of anything.

Protestant.—Well, I don't see how anybody can doubt it. We have enjoyed some good things; we want to enjoy more; we try to find where they come from. And so, whether we like it or not, all our lives are spent in the pursuit of God, since God is the giver of all good things. God is Goodness itself. We are only its vehicles: He is its source. And we cannot be content until we know its source.

Atheist.—Well, in the first place, Protestant, your statement is an argument for the existence of God. And in the second place it is a very bad argument. God is not only the giver of good things, He is the perfect creator of all things. And so even if you could show—which you can't—that there is one "source" of the goodness of good things, you would still be as far as ever from showing that there is also a single "source" of all things.—It is absurd to derive the adjective "good" from a personification of the abstract noun "Goodness".

You might as well derive "cold" from "Coldness" or "red" from "Redness". And, on the other hand, if it is not absurd—if you are justified in postulating a personal Goodness to account for the fact that some things are good—I am equally justified in postulating a personal Evil to account for the fact that some things are bad. And will you say then that God is not only Goodness itself, but also Evil itself?

Protestant.—Of course not. I have defined God as the source of *good* things.

Atheist.—But you can't do that unless you are prepared to say that anything that exists is *therefore* good. And that the source of good things is the source of all things. Otherwise you have to postulate a source of bad things which is not God, besides the source of good things which is God. And then God will not be the creator of all things.

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Catholic.—I think we may agree, Atheist, that it is impossible to prove that there is a creator of all things except through the consideration of all things. And although I believe, as a matter of fact, that all things are good, I also agree that we cannot demonstrate their createdness by considering only their goodness. It is necessary to broaden the basis of Protestant's argument from "goodness" to "being" in order to prove the existence of God.

Atheist.—And how will you do that?

Catholic.—By showing that the being of the things of this world is so imperfect that they could not be at all unless they were supported—created and sustained—by a perfect being which is not of this world.—In the first place, the imperfection of things is evidenced by their change. They begin to be and they cease to be; they become different; they move. All the things of this world are in a state of perpetual flux. They are perpetually becoming, but they never finally become anything. You will not, I suppose, deny that.

Atheist.—No, the flux is admitted. But where is the imperfection? What is the matter with the flux?

Catholic.—The flux itself. Things change because they are unable to support themselves as they are—because they are unstable. And they are unstable because they lack something which their nature demands—something, if you prefer the phrase, which is implied by their idea. That is why changing things are imperfect: their being is limited.—But they do not change themselves. They are changed by other things with more stability, more being. And so finally their change implies an unchanging end of change in which all their limitations are overcome—which *is* all that they have it in them to become. And that is God—Unmoved Mover and Supreme Being.—The case for God, then, is based quite simply on the evident fact that there cannot be change everywhere. Change itself depends on the unchangeable—instability on stability.

Atheist.—Well, it is not at all evident to me that there cannot be change everywhere. And I completely fail to see how anything but change can be inferred from change. As far as I can see, the occurrence of any change depends only on the occurrence of its cause. And the cause of a change is always another change. I don't understand what you mean by "being". And I can't even imagine what you mean by saying that things which are changed have less being than the things which change them.

Catholic.—I mean that change is the reduction of something from potentiality to actuality. And that nothing can be reduced from potentiality to actuality except by something else which is already in a state of actuality. As, for example, the potential heat of wood is actualised by the actual heat of the fire. And so I conclude that there must be a Supreme Being who moves all things because He is the actuality of all things.

Atheist.—Well, that sounds like plain humbug to me. If there is one thing certain in this world it is that nothing—absolutely nothing—is known or can be known or is there to be known of any actuality or potentiality of things *independently of the changes which they are supposed to explain.* And so the explanation of changes in these terms is simply a pretentious and quite unfounded attempt to look wise after the event. It is the sort of wisdom professed by Molière's doctor: "Opium causes sleep because it has a soporific quality."

Agnostic.—But is it so certain that even that statement is nothing but humbug? No doubt it is impossible to know that opium has a soporific quality until it is known to cause sleep. And no doubt the bare statement that it has a soporific quality tells us no more than the statement that it causes sleep. But all the same it must be true that opium does have a soporific quality if it causes sleep. And all that is required to transform the humbug into science is the specification of that soporific quality.—It is impossible in science to accept the changes of things at their face value as you apparently wish to do, Atheist. It is always necessary to seek an explanation of their changes in the things themselves. And that, I take it, is a sufficient reason why we should continue to use terms like "actuality" and "potentiality" when we don't yet know what it is in the things that brings about their change.

Atheist.—But how exactly are you going to find an explanation of the changes of things in things themselves? What specification, for example, of the soporific quality of opium would you accept as an adequate explanation of the fact that opium causes sleep?

Agnostic.—Well, I suppose the fact would be explained if we knew exactly what it is in the opium that acts upon the nervous system in causing sleep, and exactly how it acts.

Atheist.—What you really want to know, then, is the precise cause of sleep when opium is administered and something about the details of the causation. And that is how you would explain the fact that opium causes sleep—by stating in more detail and with greater precision *how* it causes sleep? Well, then, you are not concerned at all with any soporific quality in opium, but simply and solely with the fact that it causes sleep. And that I suggest is always the case: the *explanation* of a change is nothing but a more detailed *description* of the change, and the only questions involved in the description a change are questions of causation.

Protestant.—But surely there is some reason why one change always follows another change. You cannot simply say that it is so and leave it at that. There is far more to be known about it than that.

Atheist.—There is always far more to be known about the details of the change—about *how* it occurs. But there is never anything more to be known about any underlying reason *why* it occurs. And it will never be possible to get beyond the flat statement, which can only be verified by experience, that it is so.

* * *

Agnostic.—But even if that is so, it doesn't dispose of Catholic's argument for the *existence* of God. It only disposes of his *characterisation* of God. Even if it is impossible to argue from the nature of an effect to the nature of its cause, it certainly is not impossible to argue from the existence of an effect to the existence of its cause. And so even if you deny that an unmoved mover is required to account for motion, you cannot deny that a First Cause is required to begin causation.

Atheist.—But how can you ever come to a beginning of causation without arguing from the nature of the effect to the nature of its cause? So far as I can see, something like Catholic's theory of change is essential even to the assertion of a First Cause.

Catholic.—I don't think so. I think the existence of a First Cause can be proved quite independently of any theory of change: If there were no First Cause there would be no intermediate causes, and hence no ultimate causes—no causation at all. But there is causation and so there must be a First Cause.

Atheist.—That merely begs the question. You are proving that there is a First Cause by assuming that there is a First Cause.

Protestant.—But surely, Atheist, you must admit that the series of causes begins somewhere.

Atheist.—Well, in the first place, we have no evidence that there is *one* series of causes. And in fact all the evidence we have is against such a supposition. Whenever we try to describe the causal conditions of any event we always find ourselves radiating from it along divergent series of causes. And in the second place, even if there were one series of causes, we have no evidence that it must have a *beginning*. Every cause we know is also an effect. And I see no reason to admit an exception to this rule in favour of a First Cause.

Catholic.—But if there were no First Cause, the series of causes would stretch to infinity and the attempt to trace it to its end would involve an infinite regress. We could never obtain a complete account of the causation of any event. We should always be seeking a cause beyond the cause we had without ever being able to stop.

Atheist.—Well, why not? What is wrong with an infinite regress like that? It is true that we can trace the series of causes as far as we like. But it is equally true that we can stop whenever we have had enough. There is no need to go on indefinitely.

Catholic.—But that is not sufficient. It is not sufficient that we can stop at any cause we like. We cannot be satisfied until we reach a cause which *constrains* us to stop. As scientists we can go on indefinitely tracing the causes of causes of causes. But our job as philosophers is quite different. And everybody has to be a philosopher, whether or not he is also a scientist.—As philosophers we are not concerned with the detail but with the completeness of knowledge. We are concerned not with the links of the causal chain, but with the hook from which it must depend—the necessary condition of the existence of *any* causal chain. That is why we have to admit a cause which is not also an effect. And that is what is really involved in the idea of a First Cause. It is not a member of the series of contingent causes but the self-caused cause of the whole series—the necessary reason why there are contingent causes at all.

Atheist.—But how do you know that there is anything but the series of contingent causes? Where do you get your information about the hook from which it depends? You may be dissatisfied with the endless prospect of detailed work that is involved in science. But why should you think that you are justified in demanding anything else from philosophy?

Catholic.—Because the problem of philosophy is quite different from that of science—and equally legitimate. You said, a minute ago, that explanation is nothing but description. And that, I agree, is true—*in science.* But that doesn't mean that there is no explanation which is not description. It means rather that we have to look for it beyond science—*in philosophy.* That is the justification for philosophy: that it asks not merely *how* but *why* things are as they are—that it considers why they are at all.—All the facts described by science might have been otherwise. They might not have been at all. They are not necessary but contingent. And so when we ask why they exist, we must answer that they derive their existence from something which is not contingent but necessary. We cannot always refer the contingent to the contingent—the relative to the relative. At some point or other we must finally refer the contingent to the necessary—the relative to the absolute.—That is where philosophy supplants, or rather supplements, science. And that is why we have to admit the existence of God. He is the only being who contains within Himself the reason of His own existence. And so He alone can complete our knowledge as it requires to be completed.

Atheist.—But that only begs the question again. It is no use repeating your assertion of an explanation which is not science—of a *why* which is not a *how.* That is precisely what I am denying. And I shall continue to deny it until you produce it in working order.—And finally, you know, you can only do that by accepting the ontological argument which you have so far evaded. That is the only way in which you can show that any being is necessary—that it really contains within itself the ground of its existence. And until you can show that, you cannot maintain that there is any necessary being.

Catholic.—Not at all. We can still prove that there is a necessary being even although we are unable to verify its necessity. The limitations of our faculties may prevent us seeing how God's essence involves existence, but they do not prevent us seeing that the contingency of the universe demands a creator whose essence involves existence.

* * *

Agnostic.—But how do you know, Catholic, that the universe itself is not necessary? You may say, distributively, that every fact of the universe is contingent. But you cannot conclude, collectively, that all the facts—the whole universe—is contingent without committing the Fallacy of Composition.—And why, then shouldn't we regard the universe as necessary? If we must suppose that something is necessary, as I agree we must, why shouldn't we make the most economical supposition and suppose that it is the universe, which we know, rather than a creator of the universe, which we don't know at all?

Catholic.—Well, that supposition—the supposition of Pantheism—may have the merit of economy. But it certainly hasn't the merit of answering my question. I am asking why there are any contingent facts. And it is not sufficient to reply that there must be facts. It is necessary to state why there must be facts. The facts themselves do not provide a reason. And you don't get beyond the facts by talking about the universe which is nothing but the unrealisable sum of the facts.

Agnostic.—But surely a whole may have properties which are not shared by its parts. A thing, for instance, may be spherical without any of its parts being spherical. And why, then, may not the whole universe be necessary even although each of its parts—each of its constituent facts—is contingent?

Catholic.—The very fact that the universe consists of parts shows that it is not the necessary being for which we are searching, since that must be simple. If the necessary being were composed of parts, its existence would depend on the existence of its parts, and then it would not be necessary.—And there is a further fact to be observed about the universe which is even more decisive—the fact that it is impossible to reach the end of its parts since it is extended, and therefore infinitely divisible—in time and space. The parts of the universe, then, cannot even be summed into a whole. And so obviously it cannot provide the sufficient reason for its contingent parts. It is so far from being necessary that it cannot even be regarded as being at all.

Agnostic.—On the other hand, there is this advantage in regarding the universe as the necessary reason of contingent facts: that it explains them by including them. And the relation of inclusion is comprehensible. But if you find the necessary reason of contingent facts in some being completely beyond them, you have to say that it creates them. And the relation of creation we have already found to be quite incomprehensible.

Catholic.—But how can you explain anything by means of "the universe" when you cannot even talk about "the universe"? You cannot, surely, find the relation of inclusion comprehensible without a comprehensible includer. And the universe, I say, is not a comprehensible includer. It is not comprehensible at all—in itself.

Atheist.—On the one hand, then, the universe cannot be the necessary being which is to explain the existence of contingent facts, because it is nothing but the unrealisable sum of contingent facts. And, on the other hand, the only way in which the existence of contingent facts can be intelligibly explained by a necessary being is through their inclusion in that necessary being. Contingent facts must be completely dependent on the necessary being which accounts for their existence. And complete dependence can only be provided by inclusion.—So far as I can see, both your arguments are sound.

Agnostic.—But how can they both be sound when their conclusions are contradictory? If a necessary being must account for contingent facts by including them, then it must be the universe that is necessary. But, if you agree with that, you cannot also agree that the universe is not necessary, since that rules out inclusion. You can't have it both ways.

Atheist.—I think I can. Your conclusions are only contradictory on the assumption that there must be a necessary basis of contingent facts. The contradiction disappears if that assumption is not true. And the contradiction itself shows that the assumption is not true.—When you say that it is most reasonable to suppose that the universe is necessary, *if we must find necessity somewhere,* you are saying again what I have said all along—that Theism is an unstable position which inevitably spills over into Pantheism. But that is not inconsistent with the recognition that Pantheism is also an unstable position, as Catholic maintains. Pantheism is not a better doctrine than Theism because it states a better sort of Theism, but because it is a clear exposure of the contradictions of any sort of Theism. And so it provides an impossible but highly useful bridge between Theism and Atheism. Pantheists, of course, fail to recognise this. They indulge in the same worshipful phraseology as Theists. But it is impossible in practice to maintain a worshipful attitude to the universe and so there is little harm done.—The claim of Pantheism on the dying Theist is that it provides a necessary basis for contingent facts without going beyond contingent facts. But that, as Catholic has pointed out, is a claim which cannot be substantiated. All that Pantheism can achieve is the restatement of contingent facts with the emotional fervour that attaches to the term "universe". It cannot show that the universe is the necessary basis of contingent facts. It can only show that they have no necessary basis—that there is nothing beyond contingent facts.

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Catholic.—But that is absurd, Atheist. The very contingency of facts shows that there *must* be something else, since contingency and necessity are correlative terms like cause and effect or substance and attribute. If you admit the one, you must also admit the other.—When you admit that facts are contingent, you admit that they might have been otherwise—that they might not have been at all. And then you have to admit that there is some reason why they are as they are and not otherwise—why they are at all. But it is impossible to find this reason in other contingent facts because a reason has also to be found for their existence, and you are no further forward.—The question is: Why are there any contingent facts? And that question obviously cannot be answered by any contingent facts or even by all contingent facts. It can only be answered by reference to something which is not a contingent fact at all but a necessary being—a being which contains within itself the reason of its existence and which could not therefore have been otherwise.

Agnostic.—I don't see how you can help admitting that, Atheist. Once we assume that anything exists we cannot avoid the inference that something exists necessarily. It is true that we can never get any further than this. We can never *demonstrate* that anything necessarily exists by means of the ontological argument. We cannot even say whether it is the totality of facts—the universe—that exists necessarily, or something that creates the universe. We cannot start to answer the simplest questions about *what* it is that exists necessarily without becoming involved immediately in a tangle of insoluble antinomies. But all these difficulties relate only to the *characterisation* of the necessarily existent. And it would be quite illogical to regard them as evidence against its *existence.*

Atheist.—Well, I should have thought that the impossibility of characterising the necessarily existent provided ample grounds for suspecting its existence. I don't see how you can continue to say that you *must* think that something exists necessarily when you cannot identify it with anything in particular. It is only through identification—characterisation—that you can verify your inference—your unique inference—from the existent to the necessarily existent. And if you can't verify it, I don't see how you can possibly know that it is true. You can only say what Catholic says—that you are dissatisfied with a universe that is nothing but an endless procession of contingent facts. And however enlightening that may be about you and Catholic, it is certainly not evidence about the universe.

Catholic.—That is very unfair, Atheist. I began by saying that we could never be satisfied with a universe of contingent facts because I couldn't say everything at once. But since then I have repeatedly stated the grounds of my dissatisfaction in completely objective terms. And you have repeatedly evaded those statements. I said that we have to postulate a necessary being in order to answer the question: Why are there any contingent facts? And the only way in which you can show that there is no necessary being is by answering that question in some other sense.

Atheist.—But I have answered it—by saying that it cannot be asked.

Protestant.—But it has just been asked, Atheist—it is always being asked. What is the sense in saying that it cannot be asked?

Atheist.—I mean that it can only be answered by denial. We are all agreed apparently that it cannot be answered by the quotation of any contingent fact. And that, I think, is obviously true. We cannot find the sufficient reason of facts in any facts or in all facts without contradicting ourselves. But while you conclude that there must therefore be some necessary being which is not a fact, I conclude that the question is unanswerable and therefore improper. I don't see how you can answer any question without quoting some fact—some contingent fact. And if, then, this question cannot be answered by the quotation of any fact, so much the worse—not for the facts, but for the question.

Catholic.—But I have told you—time after time—how the question may be answered without the quotation of any contingent fact. It can be answered and it has to be answered by the recognition of a necessary being. And you surely cannot infer the impropriety of the question from your prejudiced unwillingness to accept that answer.

Atheist.—But even that answer denies the question. You say that there are contingent facts because there is a necessary being who creates them. And the being of that necessary being, you say, is not a contingent fact because it is implied by its nature. Very well, then, you confess your complete inability to demonstrate that there actually is any such being. But let that pass. Suppose that there is. Then that is a fact and a contingent fact. It is a contingent fact that there is a necessary being. And so even in saying that a necessary being is the sufficient reason of contingent facts, you are not answering your question but only contradicting yourself in trying to answer it.

Catholic.—Well, if you are reduced to that sort of thing, Atheist, I am afraid it is impossible to continue this discussion. Scholasticism may be humbug, but at any rate it doesn't assume that black is white in order to prove that black is not black. It doesn't argue that a necessary being is not a necessary being because it is a contingent fact. And it cannot understand anybody who does.

Atheist.—I cannot say that the being of a necessary being is a contingent fact. But I can and I do say that *the being of its being* is a contingent fact. If there were a case of necessary being—that is, a case where essence and being are identical—it would be a contingent fact that there is such a case. Its occurrence would not explain itself. And so it would be necessary, on your premises, to ask why there is such an occurrence. What more do you want to characterise it as a contingent fact?—And since, then, the question: why are there any contingent facts? can never be answered without contradiction—even by a being which is postulated for that purpose and on no other grounds at all—the only thing to do is to disallow the question from the beginning. Unless we do that, we shall always be in the predicament of Locke's poor Indian. We may rest the universe on an elephant and the elephant on a tortoise, but sooner or later our ingenuity is bound to give out. And then we shall have to confess that the whole construction rests on something—we know not what.

Catholic.—But after all, Locke's poor Indian has only found himself in an infinite regress. And I don't see how you can regard that as an objectionable position—on your principles. If there is no necessary being—nothing but contingent facts—we shall find ourselves in an infinite regress whenever we start to think. You have admitted as much with regard to causation. And if you don't object to an infinite regress there, why should you object to it here?

Atheist.—An infinite regress is unobjectionable when you can stop whenever you want to. And that is the case with any inquiry into causes because it aims only at the extension of knowledge by description and not at any final completion of knowledge by explanation. A scientist can be satisfied that Y is the cause of Z although he knows quite well that that is not the end of the matter. Somebody else will discover that X is the cause of Y and therefore of Z, and somebody else again that W is the cause of X and therefore of Y and therefore of Z. But that doesn't affect his discovery. It is still true that Y is the cause of Z, however far the investigation of any single series of causes is carried and however many series are involved.—But the genesis of an infinite regress in the inquiry after a necessary basis of contingent facts is quite a different matter. The very purpose of that inquiry, as you have repeatedly told us, is to transcend description in order to obtain a final completion of knowledge. And if you admit an infinite regress in that inquiry you admit that your inquiry has failed. You admit that however far you go there will always be something beyond—that no final completion of knowledge is possible. And so you admit that you haven't transcended description and that you can't transcend it—that any attempt to extend knowledge, in the name of philosophy, beyond the description of facts required in science, is a waste of time.

LOCKE'S THEORY OF KNOWLEDGE.

By Henry H. Ferguson, M.A.,
Lecturer in Philosophy, Otago University, New Zealand.

II.

VI. Of Compounding, Comparing and Abstracting —*Continued.*

(*c*) *Abstracting.*—All ideas according to Locke, as we have seen, are particular, and they only become general by two steps: (i) abstraction, (ii) the relating activity of the mind. We may quote: "The use of words then being to stand as the outward marks of our internal ideas, and those ideas being taken from particular things, if every particular idea that we take in should have a distinct name, names must be endless. To prevent this the mind makes the particular ideas, received from particular objects, to become general; which is done by considering them as they are in the mind such appearances, separate from all other existences and the circumstances of real existence as time, place or any other concomitant ideas. This is called abstraction, whereby ideas taken from particular beings become general representatives of all of the same kind; and their names general names, applicable to whatever exists conformable to such abstract ideas. Such precise, naked appearances in the mind, without considering how, whence, or with what others they come there, the understanding lays up (with names commonly annexed to them) as the standards to rank real existence into sorts, as they agree with these patterns, and to denominate them accordingly. Thus the same colour being observed today in chalk and snow, which the mind yesterday received from milk, it considers that appearance alone, makes it a representative of all of that kind, and having given it the name whiteness, it by that sound signifies the same quality wheresoever to be imagined or met with; and thus universals, whether ideas or terms, are made."[1]

In criticism we may remark: (1) (and this is the most fundamental objection) What does Locke mean by speaking about "the same colour"? Locke has no right to speak about anything being "the same" as another, because he says all ideas are really particular, and this notion of "sameness" is the general idea. Here it would appear that Locke is assuming general ideas as essential to that process—the process of abstraction—by which, according to him, general ideas are formed.

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[1] "Essay", Bk. II, ch. XI, § 9.

(2) What does Locke mean by separating an idea from all its circumstances, and considering it alone? Obviously you could not consider whiteness as in no place, no time, etc. If you removed what Locke calls the "circumstances" you would have nothing left. It seems evident that we can not mean by separation really removing the entire setting and special circumstances of the quality under consideration. Nor can that quality, to take the example of whiteness, be neither milk-white, snow-white, chalk-white, or any other white, but simply whiteness. The only thing we can mean, and the only thing Locke did mean, is that we regard the special place, the special time, etc.—all the special circumstances—as being irrelevant, it being possible for our idea to be of this, that, or the other quality, in this, that, or the other setting. But some special quality, with certain special circumstances, the idea must have, if it is to be an idea at all. We find that the general idea of special circumstances—this place, or the other place, etc.—is presupposed in abstracting. So that here again we see that the process of abstracting, which is supposed to give us general ideas, presupposes them.

We now come to the second step in abstracting. When these general ideas have been reached we set them up as "standards", we set them up as objects of reference. "Ideas are general when they are set up as the representatives of many particular things, but universality belongs not to the things themselves."[1] Now, obviously before anything can be set up as a representative of anything else, it must be apprehended as being a member of that class which it is to represent. That is, in order to form a general idea we must already have a general idea. So we see that we do start with general ideas and not with particular ideas as Locke thought. We cannot apprehend a particular idea without apprehending it as a member of a class. And if we had, as Locke thought, started with particular ideas, we could never have advanced beyond them (*i.e.*, granting we could have known them),[2] and universal knowledge would have been an impossibility.

The question of supreme importance in Locke's whole discussion is not whether these general ideas, maxims, or anything else, were innate, or no, but how we could come by them at all. And Locke has failed to answer that question satisfactorily.

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[1] "Essay", Bk. III, ch. III, § 2.

[2] See G. F. Stout, "Studies in Philosophy and Psychology", pp. 370-371. On page 371 we read: "As, therefore, a particular existent is only known in knowing the proposition that it exists, it can only be known by a thought which transcends it."

We must just mention that famous passage which Berkeley criticized—the passage in which the abstract idea of a triangle is described. The abstract idea of a triangle is an idea of a triangle which is neither rectangular, scalene, etc. . . . . but all and none of these at the same time. In fact it is, Locke says, something imperfect which cannot exist, but which can be an object of thought. That such a thing could be an object of thought was precisely what Berkeley denied. But by the abstract idea of a triangle Locke must be taken to mean, as in the case of whiteness, that the-being-an-isosceles-triangle, the-being-an-equilateral-triangle, etc., are but the special "circumstances" of triangularity, one or other of which is, and must be, present.

With regard to relating and abstracting it must be said that "although ideas of relations and general ideas were never treated by Locke as mere results of composition, it was only in the fourth edition of the 'Essay' that they were definitely distinguished from these; while no attempt was made, even then, to bring his treatment of the subject as a whole into line with the view there put forward. In an addition made to the twelfth chapter of the Second Book, the three operations of compounding, comparing, and abstracting are described. To the first of these all our complex ideas are ascribed, complex ideas being thus merely treated as co-ordinate with, and not inclusive of, our ideas of relations and our general ideas. Notwithstanding this, the heading 'Of complex ideas' is still retained for the chapter as a whole, and the term 'complex idea' continues to be used as a designation for all ideas which are not 'original', 'primary', or 'simple'. If we continue to follow Locke's more frequent usage, it must, at least, be recognized that just as we previously saw that a simple idea may, according to Locke, involve a certain complexity of content, so it now appears that the complex idea, with which it is contrasted, need not involve a composition of elements, but may be instead a product of comparison or abstraction."[1]

Gibson says that the distinction Locke has in mind in discussing ideas appears to be a distinction between "primary" or "original" and secondary and derivative ideas, rather than between simple and complex, although the two principles of division have been identified under the influence of the composition theory.

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[1] J. Gibson, "Locke's Theory of Knowledge", p. 65. (Editorial Note: In both Campbell Fraser's and Pringle-Pattison's editions the material referred to appears in the *eleventh* chapter, "Of discerning, and other operations of the mind", and not in the twelfth chapter, "Of complex ideas".)

These, then, are the three ways in which we pass from the simple or primary ideas to the complex—using complex in the comprehensive sense. And all complex ideas, Locke says, come under three heads—Modes, Substances, Relations.

VII. OF MODES, SUBSTANCES, RELATIONS.

We will now consider as briefly as possible—since the underlying thesis in all has been already considered—substances, and the more important of the modes and relations.

A. Modes Locke defines as "such complex ideas, which, however compounded, contain not in them the supposition of subsisting by themselves, but are considered as dependencies on, or affections of, substances", while *B*, "the ideas of substances are such combinations of simple ideas as are taken to represent distinct particular things subsisting by themselves, in which the supposed, or confused, idea of substance, such as it is, is always the first and chief". *C*. Ideas of relation are said to consist "in the consideration and comparing one idea with another".

A. *Modes.*—Locke distinguishes two kinds—simple and mixed. The simple are those which are modifications of the same simple idea, while the mixed contain ideas of different kinds; and the most interesting of these modes are the simple modes of (*a*) Space and (*b*) Duration.

(*a*) Space. Locke attempts to show that by beginning with simple ideas of particular spaces, we arrive, by a process of compounding these simple ideas of space, at the simple mode of space. It is his composition theory over again. But be it noted that much of what he says about space, and duration, too, is glaringly inconsistent with the composition theory.

We may say in criticism of the composition theory of space, that we do not, as a matter of fact, apprehend any particular space by first having separate ideas of its parts, but apprehend it as a whole containing parts. The *minimum tangibile* and *minimum visibile* Locke takes as the units out of which our idea of space is made. But even these Locke has to admit are composed of parts. We do not, as Locke holds, arrive at the idea of space by a repetition of any unit; we apprehend space as something capable of measurement by these units.

(*b*) Duration. In connection with duration we may start by noting that Locke distinguishes between duration and time. Duration is subjective time, time is objective time as measured by the sun's movements. The idea of duration is obtained from the difference between the enduring self and its changing ideas. While our ideas change, we identify ourselves as the same and so get the idea of duration. But the main point for consideration is not how we come by our idea of duration; it is how we measure time. How can we determine the equality or inequality of different periods of time? You can not measure time as you do space. You can not superimpose one part of time on another. Time, Locke holds, is determined subjectively. His contention is that our ideas follow one another at more or less fixed intervals and that these intervals serve as units by which to measure time. He denies that we can measure time by any other succession—say, the hands of the clock—saying that we only use such successions as measures of time, because they appear to move at a fixed rate. Locke's contention is that the primitive measure of time is our ideas, and although he agrees that we leave this measure behind and substitute changes in the external world, and thus get the ordinary conception of time, he yet holds that the ultimate test of equality in time is subjective. Anything could serve well as a measure of time that has apparently equal movements. The difficulty of the subjective measure as being the ultimate test of length of time Locke hardly notices. To meet this difficulty he ought to have considered the statement that no two different parts of succession can be put together to measure one another. Is that true? Certainly you cannot put one part of time over another part. But since there are many successions going on at one time you can apply the test of coherence. Starting with the subjective estimate of time, you can afterwards drop it, applying henceforward the test of coherence. If you obtain coherent results from the measure you adopt, then that becomes the standard of measurement, and the ultimate test of time how long.[1]

Although Locke held that we obtained our ideas of Space and Time by "repeating" certain units, he notices the difference between conceptual and perceptual Space and Time. We have concepts of Space and Time and these transcend anything we arrive at by a mere repetition of units.

B. Substance.—Although substance for Locke remains the I-know-not-what which supports qualities, he never doubted of its existence. Locke accepted the category of substance without questioning it and accepted the current view of substance as absolute, unaffected by relations. Primary qualities were said to really belong to the nature of substance, while secondary qualities were held to be the result in our minds of the affections of our senses by the primary qualities in matter.

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[1] It is interesting here to compare the procedure in standardizing mental tests.

In making substance the substratum which possessed these primary qualities, Locke did not seem to see that substance apart from the qualities was a mere abstraction and incapable of existence.

There are ideas of both material and spiritual substances. Of both the substratum is unknown, and Locke suggests that for aught he knows the substratum of both sets of our ideas —material and spiritual—may be the same. Here he throws doubt on the rigid Cartesian dualism.

He again departs from Cartesianism in holding that material substance consists in extension and solidity and not in extension alone, and holds that the "where" and "when" are applicable to minds as well as bodies.

The justification which Locke offers for the existence of substance is that it is necessary to thought. We cannot conceive of extension, solidity, etc., without referring to something in which they inhere. So that although Locke held that substance is absolute, we find we can only form a relative idea of it.

We now come to:

C. Relations.—Causality and Identity are considered as relations.

(*a*) Causality. Whenever we see a change, the mind, Locke says, immediately posits a power somewhere to bring about that change. We have made mention of Locke's theory of causality already. Here we may add to what has already been said. Locke considers that we attribute cause to things because of our subjective awareness of cause in willing. The idea of cause is ultimately subjective.[1] Now the primary qualities are held to cause in us the secondary qualities. Why these primary qualities should cause in us the secondary qualities is not known. It is just a fact that they do. Why a billiard ball should on impact move another is not known; there is no apparent necessary connection between what precedes and what follows. It is just a fact that on impact the one ball moves the other, and one is conceived of as passive and the other active. This conception of passivity and activity I have already criticized.

(*b*) Identity. By identity he does not mean "of the same kind"; he means individual identity, but he rightly insists that kind or sort does enter into individual identity. The question prior to individual identity is: Identical in what respect? With identity goes diversity. You perceive identity in spite of differences. Supposing a piece of matter changes its position, it is yet said to be identical, for it is its nature to exist here or there. All the different positions are included in its history and being. This relates to the identity of mere parts of matter. There is also the identity of plants and animals. To take Locke's example of the oak, the oak remains the same oak, so long as its organization remains the same, although the matter which enters into its composition may be different. Locke's answer is that the different parts of matter composing the oak are not anyhow united, but united in a certain way. True; but then the identity of the oak is not simply the coexistence in a certain relation of the different parts of matter. The identity of the oak includes succession as well as coexistence. The oak springs from the acorn, preserving its identity because not only of a certain relation of parts at any given moment, but also because of the connection one part of its life-history has with another. One stage of development is continued on and into the next.

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[1] It may be interesting here to consider what Stout has to say in criticism of Ward's theory of the Projection of the Self. "Mind and Matter", p. 27, *et sqq.*

His account of the identity of animals is much the same. Man's identity along with that of the rest of the animals and plants, consists "in nothing but a participation of the same continued life by constantly fleeting particles of matter, in succession vitally united to the same organised body". Identity of soul does not constitute identity of the same man, for the same soul might be united in different bodies.

But when Locke comes to "personal" identity, as distinguished from the identity of the same "man", he points out that this consists in the awareness of the self as being the same. He says as far as consciousness, by which he means self-consciousness, can be extended back into the past, so far extends personal identity. Self-consciousness, actual or potential, is the basis of personal identity.

In this connection we may ask how far the body is included in personal identity. "The limbs of the body are to everyone a part of himself: he sympathises and is concerned with them." It is here that Locke most nearly approaches the conception of the embodied self put forward by Professor Stout and intimately connected with his theory of knowledge.[1]

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[1] In the introduction, page vi, to "Studies in Philosophy and Psychology" we find Stout saying: "We cannot therefore give an account of our knowledge of external objects except by giving an account of the distinction and relation of the embodied self and the embodied not-self." In "Mind and Matter", p. 303, we find: "Hence his [*i.e.*, the individual's] own action is for him from the outset bodily as well as mental. It is the action of an embodied self. Otherwise he could not be aware of external objects at all." Regarding Stout's phrase "embodied mind", I should like to say that though his meaning is nowhere ambiguous, I think it would have been better had he used the phrase "body-mind". Stout's phrase seems to imply the theory he rejects.

VIII. OF HOW FAR OUR KNOWLEDGE EXTENDS AND WHAT IT IS ABOUT.

We come at last to the main purpose of the "Essay". The "Essay" set out to determine the extent of knowledge together with the grounds of belief, faith and opinion. We have seen that an account of knowledge had been given by Descartes, and that it was because Locke was dissatisfied with Descartes' account that he tackled the question anew.

Since ideas were considered the material on which our knowledge rested, Locke investigated them as subsidiary to his main purpose. The fallacious assumption of this procedure was that he proceeded as if we first had ideas and then came to know about them. Whereas, as a matter of fact, we do not have an idea without having the knowledge of its existence. Knowledge without judgment is a chimera.

"Locke's interest centres in the traditional problems—the nature of self, the world, and God, and the grounds and knowledge of them."[1]

Descartes, we remember, had held that we could obtain knowledge of the physical world. And this Locke denied, holding that all our knowledge of the material world, however probable, never amounted to certainty. His reasons for holding this were (1) that we could not know the insensible parts of matter, and (2), even supposing we could, we could not see how these primary qualities were necessarily connected with the qualities we experienced. So although Locke never doubts that substance exists, he holds that our knowledge about it can only be probable. The only thing we can do is to look to experience and note what actually happens and from that we obtain probability; we can never apprehend just why substance should act as it does and not in some other way. The substratum to which the particles of matter belong, may, he holds, be the same substratum as that to which the properties of the self belong. He says that we can not, from our necessary ignorance, know whether mind and matter are ultimately different, or no.

When Locke comes to treat of God, however, he does not admit that He may be material, holding that He is immaterial, and His existence capable of demonstration.

At the beginning of Book IV, Locke gives a definition of knowledge; it is the perceiving of agreement or disagreement between our ideas. (We note that knowledge does not depend upon the way we come by our ideas.) Where there is this perception there is knowledge, but where it is not we may fancy, guess, or believe, but we always fall short of knowledge. Locke's definition of knowledge does not include coexistence, and as stated makes knowledge conversant only with particular matters of fact, and, as such, knowledge could not be universal. Locke, after dealing with knowledge in general in Chap. I, goes on in Chap. II to discuss degrees of knowledge. He treats first of intuition. This consists in the immediate apprehension of something. You need no intermediate steps by which to see that this particular white is different from that particular black according to Locke. But, as a matter of fact, we can only apprehend this particular white as different from that particular black because we apprehend the particular white as belonging to a different class from the particular black. Intuition, however, for Locke consists in immediately perceiving that this particular white is different from that particular black. Such knowledge is absolutely irresistible; it never admits of doubt. And on this kind of knowledge all demonstrative knowledge depends. This, too, is certain knowledge, but since it can not be apprehended immediately but only mediately, by means of intuitions, and since the whole process is dependent on memory, although we can obtain certain knowledge by it, yet it may admit of doubt, because we may not be able to follow the proof. Every successive step in a demonstration is an intuition. You perceive $A = B$, $B = C$, $C = D$ by intuitions, and then arrive at the conclusion that $A = D$. Locke does not seem to be aware that there is an intermediate step in passing from $C = D$ to $A = D$. You don't, as Locke implies, pass from the step $C = D$ to $A = D$; you have first to apprehend all the preceding steps as making one premise—not premises—to your conclusion $A = D$.

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[1] W. R. Sorley, "History of English Philosophy", p. 110.

What we know by intuition and demonstration is all that we can be said to know in the strict sense of the word, according to Locke. All other knowledge is only probable, which probability may be sufficient for belief, but never for certainty.

Those things of which we can have certain knowledge are the self—of which we are intuitively aware—mathematics, morals and God, which are capable of demonstration.

According to Locke, "all our complex ideas, except those of substances, being archetypes of the mind's own making, not intended to be the copies of anything, nor referred to the existence of anything, as to their originals, cannot want any conformity necessary to real knowledge. So we cannot but be infallibly certain, that all the knowledge we attain concerning these ideas is real."[1] It is this that gives mathematics and morals their certainty.

Now obviously, with regard to mathematics, it is just because we find that two things and another two things make four things, that we can say $2+2=4$. The certainty of mathematics is so far dependent on reality. But it can transcend reality. It can proceed from the circular objects it finds in reality to the concept of the geometrical circle. And whether, or no, a perfect circle exists in reality, does not affect the certainty of the mathematical properties of it. And once having reached the concept of the geometrical circle, it serves as the point of reference for all circles, or rather circular objects, which we find in reality. Our knowledge is reached *through* what is given *in* experience.

Locke held that morals were capable of demonstration for the same reason as mathematics. We have seen how his doctrine as applied to mathematics was fallacious, but have yet found demonstrable certainty in them. But when we come to morals we not only have to start with reality, but we end there. The rightness, or wrongness, of theft is always relative to certain social circumstances. And so Locke was wrong in holding that morals were capable of demonstration.

Locke's argument for the existence of God is well summarized by Alexander:[2] "Of God's existence we have a demonstrable knowledge. For I myself exist; there must therefore be some real being to account for my beginning to be, and this real being must exist from all eternity (or it too would have had a beginning and therefore a further cause). Moreover this being as the source of all our powers and knowledge must be most powerful and most knowing—in a word, it is God." Alexander goes on to remark: "The pungency of my own existence is thus by this argument communicated through the principle of causality to God. But Locke, though he regards it as an intuitive truth that nothing can begin to be except it is produced by some real thing, does not ask himself how the idea of causation, gathered according to his own account from the suggestion of connected changes in things, can be extended so as to apply to a cause like God which never can be presented in sensible or reflective experience."

Besides knowledge we have probability. This probability may be great enough for belief, may be sufficient for all practical purposes, but never possesses the certainty of knowledge. In dealing with material substances we can obtain only probability. We do not know the minute composition of a hemlock, or rhubarb, or if we did, the relation these minute particles bear to their effects, so that by merely considering the constitution of hemlock and rhubarb, we could not say that the one would kill and the other purge. We must go by experience and the more often a thing happens the more probable it is that it will always happen, but we can never attain certainty. In this, as we have seen, he opposed the doctrine of Descartes.

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[1] "Essay", Bk. IV, ch. IV, § 5.
[2] "Locke", pp. 48-49.

Now, firstly, let us point out that because we have seen a stone fall twenty times, the probability that given a certain position it will always do so has not increased from the first example we saw of a stone falling. If we did not from the first apprehend the falling of the stone as the sort of thing that can happen, then we could never arrive at the notion of the probability of its falling on future occasions. From the first we recognize not the particular only, but the particular as belonging to a class. So, given the similar circumstances, we can infer that the same thing will happen again with a high probability.

Then, again, supposing we do not know the minute particles of matter, still we can come to know them. We can frame hypotheses about them, and whichever hypothesis fits the facts, we take to be a description of these minute parts of matter. It is by making such hypotheses that we can obtain knowledge, as opposed to probability, in the sciences. . . . . Remember how we saw we could transcend the uncertain primitive measure of time.

Locke says that even supposing we knew the minute parts of matter, still we could not know the necessary connection between these and their effects. It was because Hume could not find this necessary connection that he held all our ideas of causation to be simply due to association. Because we saw many times the one billiard ball on impact moving the other, we thence concluded that the one caused the other to move. But this was only the effect of the association of ideas according to Hume. We have pointed out the fallacy in connection with probability. We do not apprehend the moving of one billiard ball by another, when we first see the one move the other, as merely a particular event, we apprehend it as belonging to a class of events—events of that kind. We do not apprehend first particulars and then proceed gradually to generalize. We apprehend the general through the particular.

The failure of Locke to find necessary connection is due to his fallacious assumption, with which we have dealt, that we are only aware of particulars, and his assumption, with which we will deal, that all substances are discrete. As has been already pointed out, Locke has a passage in which he speaks of the relatedness of things. "But to all intents and purposes, in spite of his urging the inter-relatedness of things, the world is to him a number of isolated atoms grouped together in the last resort by the good pleasure of God, as indeed his follower Berkeley explicitly affirmed. Locke's badinage of Malebranche's opinion that 'we see all things in God', is a good illustration of his insensibility to the cardinal fact of continuity. Malebranche had said that 'when we think of anything in particular, we at first cast our view upon all beings'—meaning that each thing is seen as a fragment or a limitation of the whole vague universe. 'I do not think', says Locke, 'that my country neighbours, when they first wake in the morning, find it impossible to think of a lame horse they have, till they have run over in their minds "all beings" that are, and then pitch on Dapple.'"[1] You do not have a lot of discrete substances, so that, when one moves the other, as in the case of the billiard balls, the one is passive and the other active. Both, along with a multitude of conditions, are necessary for the event to take place. This has been mentioned already. Be it sufficient to say that we do not first apprehend things as discrete, nor apprehend the identity of individual organisms as simply a certain organization of parts, but as also containing succession—remember in what the identity of the oak consisted for Locke. We apprehend all things as part of a system of which we also are a part. And being a system and not chaos, it is such that as soon as a given situation arises and produces a certain effect, we can see from this example that, if the same situation occurs again, we will again have the same effect. We can see from the one example that there is a necessary connection between the given situation and the result arising out of it. So we can apprehend necessary connection, and we can have certain knowledge in the sciences.

We are not aware of ideas of these material substances, but of the material substances themselves. And we are not aware of ideas of ourselves, nor of ourselves as minds, but of ourselves as embodied minds. So our knowledge is not about ideas, but about substances including ourselves (and these substances are no substrata) as forming a system in which they interact on one another.

Let us conclude by quoting from "Mind and Matter":[2]

"The ultimate test of any theory of knowledge is its success in answering the question which falls within its province. It sets out to explain how we know what we admittedly do know. It breaks down if instead of this it reaches the result that we cannot know what admittedly we do know. In that case what it has achieved is only to show that the principles on which it has proceeded must be false. Take, for instance, Hume's treatment of the knowledge of causal relations: if the inevitable outcome of his initial assumptions is that there can be no valid inference from one matter of fact to another, it follows, as he himself saw, that these assumptions must be untenable. A theory of knowledge can accredit itself only by its success—its success in accounting for the knowledge which it finds indispensably presupposed in the ordinary conduct of life and in science. To deny such knowledge instead of analysing its nature and conditions is suicidal. Any theory is therefore self-condemned if it logically leads to the conclusion either that we cannot know the physical world which is essential to Common Sense, or that we can know it only through a complex and precarious process of inference. It is not the claim of physical things to exist which is on its trial, but only the claim of a certain theory to account for the way in which we know of their existence or are justified in believing them to exist."

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[1] S. Alexander, *ibid.*, p. 67.
[2] Page 241.

THE EMOTIONAL ELEMENT IN LISTENING TO MUSIC.

By Enid Robertson, B.A.

It is taken for granted by most writers that musical listening is charged with some emotional element. But it must be observed that the emotional response is not an essential part of musical appreciation and that music cannot be solely, if at all, regarded as the expression of the emotions.[1] This view, that music is the expression of the emotions, is held by most unmusical people, by many so-called music-lovers, and by some technically trained people (usually of the practical executant type) who, though superficially skilled, are not genuine musicians.

Such a misconception has a double falseness. It comprises roughly the confused views that music is at once expressive of the emotions or emotional state of mind of the composer, and at the same time that it is capable of arousing these same emotions in the hearer; or, alternatively, of providing an outlet for the hearer to give expression to his own emotions. The fact that the composer who, according to this view, was prompted by his emotions to write the music which is supposed to express them, experienced just those emotions which the listener wants to indulge in, if it is thought about at all, is regarded as a happy coincidence.

From the confusion centring round these two ideas emerges the fact that music can be experienced emotionally by the hearer, and that this attitude, which is included by Professor C. S. Myers in his analysis of what he terms the "intra-subjective" aspect of listening, where music is followed for the sensory, emotional or conative experience it arouses, is of more frequent occurrence in the experience of musically trained people than is usually suspected.[2] What the same writer calls the "character" aspect is also closely allied to the attitude which I have just mentioned, where emotional qualities are read into the music. Professor Myers also states that sounds or colours may be 'jolly' or 'high-spirited' when the subject is not. "Art material may be personalized and characterized as 'morbid', 'jovial' . . . etc., without necessarily having previously evoked or consequently evoking 'morbid' or 'jovial' feelings, etc., in the listener."[1] The subject may also identify himself in varying degrees with the character ascribed by him to the music, which, in turn, he may or may not regard as expressive of the emotions of the composer. That he does, however, find the music "jolly" or "high-spirited" independently of his own emotional state at the time, whether or no the music succeeds in producing in him the feeling of being "jolly" or "high-spirited", etc., seems to point to the fact that he recognizes some absolute characteristic of the music which is expressive of these qualities, and with which he identifies himself.

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[1] Throughout the following analysis I use the term "emotion" with the loosest meaning to comprise moods, vague feelings, emotions, and sentiments.

[2] "Individual Differences in Listening to Music." Charles S. Myers, in *The Effects of Music,* edited by Max Schoen, pp. 30, 31.

To give an example from my own observation: A musician of my acquaintance, cultured, with an excellent ear, and great musical taste, used constantly to describe the music he was playing or listening to in the following way. A phrase was "witty"; a sudden crescendo, such as the opening theme of Beethoven's Sonata No. 1 in F Minor, was "volcanic". Of a particular passage of Brahms's "Variations on a Theme of Schumann", last variation, bar fourteen, where the rich flow of the harmony is marked by a sudden violent change in intensity and harmony, he said: "Now the bottom has fallen out!" This description does convey crudely the sudden and overwhelming sense of desolation and hopelessness which the change of harmony, marked piano, and occurring on a weak beat, brings to any listener. Here again we come to a certain confusion of meaning. Is this "desolation" an actual quality inherent in the music, which it is intended to express, or does the listener disinterestedly interpret the music in terms of emotional experience, or does he ascribe to the music the quality of desolation which it has produced in him?

Obviously a certain rhythmical, harmonic and *dynamic* effect only is achieved in the music. The listener may describe, interpret or live this. It can be accurately described only in the exact musical terms in which it is written and played. Musically explained, the passage rewritten is what the music means. That is its only exact musical significance. But the listener may also interpret it in extra-musical terms. The direction which his extra-musical interpretation assumes depends mainly on the sort of attitude he takes up with regard to listening to music—associative, dramatic, emotional, and so on. He may translate the music into the terms of the idiom most familiar to him as a means of expression. The artist, for example, may translate a musical effect into terms of colour; a writer into terms of literature; a dancer into terms of dance-movement.

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[1] *Ibid.*, p. 25.

The hearer may, however, personify the music. This is fundamentally the recognition of such-and-such a human quality in the music. Words may not come until later, when he makes an attempt to describe his experience. The tendency to personify inanimate objects is primitive and deep-rooted. In the case of music, which has the semblance of a living thing because of its most characteristic qualities of motion, in pitch as well as in time, and also because of its dynamic effects, this tendency becomes particularly strong, and occurs spontaneously.

The subject may also live the music, either emotionally or æsthetically. He lives the music emotionally when he gives himself up to the successive emotions or moods or sensory experience which the music arouses in him, always provided that he does not lose sight of the music as the source of these emotional states.

Living the music æsthetically is self-individuation in the music or a state of empathy. In æsthetic absorption in music, which is musical appreciation at the highest level, the subject "lives" the relationships of the notes—that is, he follows them in all their aspects of changing pitch, duration, quality and dynamic force. But it is not my object here to discuss this type of listening.

As regards the conception that the music expresses the emotional state of the composer, it is doubtful whether musical effects alone are important in throwing light on the question whether the composer in fact experiences this emotional state. They can do little beyond giving the listener an opportunity of translating into crude and less exact terms the *musical* meaning which the composer wished to convey. The form in which this musical meaning is embodied may depend in a slight degree on the emotional state he was in at the moment of composition. The choice of such general features as pace, the mode, the smoothness or vivacity of the rhythm, flowing or jerky melody, the prevailing robust or delicate quality of the harmonies, and so on, may have been dictated by his mood. Yet it is almost as likely to have had nothing to do with it, and the composer may have used certain dynamic effects, for example, in complete opposition to his mood, by way of "escape" from it.

The knowledge which we have gained as to the methods of composition of different composers goes to show that it is rarely a mood or an emotion which they attempt to pin down and express musically. The methods of Beethoven and

Mozart are similar in this—that both these musicians had an impression of their compositions as a whole before transcribing them on paper. This whole was somewhat in the nature of a design or formal scaffolding; for we read of Beethoven searching through the note-books where he was accustomed to jot down musical ideas as they came to him, for the themes he wanted to fit into the framework of his initial conception. It is not to be credited that he chose those themes to express particular emotions, but rather in order to contrast and develop them musically.

The personification or the interpretation in emotional terms of musical effects such as I have described is only a superficial musical experience. It was recognized as such by the same musician I have already mentioned, who was accustomed to describe the music as "witty" and so on. He agreed that the essential quality of any melody was that it should appear "beautiful", though he was unable to explain exactly what constituted beauty in music. He suggested that a melody was beautiful when it was "musically effective", or "inevitable" or "artistically right", all of which are terms that themselves require definition. He assumed that a melody, for example, would be recognized as beautiful if it conformed to these qualities. It was "judged on points of obviousness, artistry, smoothness", and so on. Obviousness or its absence implied a reference to musical tradition. The music would be "good" in so far as it could be understood in terms of the conventional musical idioms, while at the same time it could be realized as going beyond this. As Sir William Mitchell remarks in "The Structure and Growth of the Mind": "Our admiration [for a great work] may have less surprise in it than a sense of fitness, and often the surprise is that no one has hit the course before." A good or beautiful melody, for example, is not modelled on the pattern of hundreds which went before it.

The term "artistry" includes appropriateness of pitch-interval, choice of time-grouping, and arrangement of dynamic effects. It also includes correct use of technique and choice of medium. Lack of technique and a medium badly handled may result in angularity. An example will illustrate the importance of choice of the medium. A long and cloying melody sounds trite and emotionally redundant when played entirely on the upper register of the 'cello. This is both bad technique and bad taste. We thus arrive at the much discussed question, "What constitutes musical taste?", to which no answer can be given beyond a reference to the standards raised by tradition and environment, and an acknowledgement of the necessity for accepting these musical conventions. Such conventions are the outcome of æsthetic conditions founded on fundamental natural laws. For example, I may remark in passing that the vocal origin of melody has associated it with impressions of smoothness, and that accordingly there is a point where excessive angularity or speed destroys the beauty of melody.

But it is not easy to give an explanation of the basis for the conviction that such-and-such a melody is beautiful. Intuition, by which we know a work of art as beautiful, is "its own authority, and carries with it the guarantee of its own authenticity".[1] Intuition, or the inner conviction of beauty as a truth, has been described by Bergson as "the kind of intellectual sympathy by which one places oneself within an object in order to coincide with what is unique in it, and therefore inexpressible". This is peculiarly true of the appreciation of a piece of music. It is only by entering through sympathy into the meaning of the music that the listener succeeds in grasping it. And a melody, or any other more complex musical art-form, is a purely musical expression with a particular musical meaning; therefore any attempt to appreciate it by translating it into terms other than music must be ineffective as a means of arriving at a true appreciation of its musical beauty.

An exception to this view of music as possessing absolute significance must, however, be made with regard to programme music, and also to impressionistic music. It is clear that in writing such a work as "Pacific 231", Honegger aimed at presenting a definite picture of an express train as it rushed on in its headlong journey into space. But such realism actually has little of the beautiful about it, and its claim to be called music is doubtful. Even programme-music must possess musical qualities of value if it is to be regarded as good music.

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Although in the preceding remarks I have emphasized the fact that a true appreciation of music always involves an intellectual approach to the formal or musical significance of a work of music, there *is* an aspect of music to be considered which lends a certain support to the view that music is expressive of the emotions, and can therefore be approached emotionally. This is its dynamic quality.

Music, like our emotional states, has an ebb and flow which is partly due to the fact that sound and rhythm are both moving qualities. They are not static in time. That is, they can only be perceived throughout a duration of time. Pitch also has the semblance of movement in space as well as in time. Let these two elements be complicated by the addition of "intensity", which is a natural characteristic of each sound from the moment it first impinges on the ear until it dies away into silence, as well as being an essential part of the formal or artistic arrangement of notes as they occur in music, separately, in succession or massed, and the result of this complex is as expressive a force as exists.

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[1] C. E. M. Joad, "Philosophical Aspects of Modern Science", p. 215.

The similarity of this dynamic ebb and flow and height and depth with the ebb and flow and exaltation and depression of our emotional states, is what chiefly favours the giving of an emotional significance to the music. The parallel is equally applicable to each of the three following types of emotional response in which: (1) the emotional state of the subject is directly induced by qualities in the music: (2) the music merely serves to emphasize an existing emotional state: and (3) the subject appears to recognize the music as possessing, or as expressive of, certain emotional qualities irrespective of whether he experiences the corresponding emotions himself.

A brief analysis of these three types of response must be made at this point.

The first depends on the sympathetic arousing of a certain mood of a general emotional nature through the medium of the dynamic qualities of the music. Other musical effects, possessing direct physiological appeal, help to intensify this emotional state, as well as, in some cases, causing it to take a particular direction. For example, music of a slow cantabile nature, in a minor key, and making use of interrupted cadences, suspensions and feminine cadential endings, will convey to and arouse in the type of listener I am considering a feeling of grief, longing, or frustation. Such a work as Brahms's Intermezzo in A Major, Opus 118, which owes much of its plaintive wistfulness and air of feminine grace to the various devices I have mentioned, is capable of arousing the effect I have in mind. The calm unhurried flow of the music tends to suppress feelings of a violent nature; interrupted cadences are characteristic of frustration; suspensions are akin to hopeless longing; and feminine cadential endings are expressive of weakness.

The languor and melancholy so often conveyed by the minor mode here require explanation. It has almost become a convention to regard music written in a minor key as expressive of sadness. This is partly due to the effect of association. As regards programme-music a correspondence between the sad significance of the title and the key of the music is bound to give rise to a convention which is eventually applied to all music. It is also due partly to qualities inherent in the minor key itself. The extra effort demanded of a hearer, grasping the melodic relations of notes in a scale just removed from the familiar, the major or orthodox scale, is no doubt at the root of the peculiar emotional effect produced by the minor mode. Edmund Gurney, in his treatise "The Power of Sound", describes how the effort which has to be made when the mind proceeds from a certain note to the next in the minor key, imparts a colour to the whole key. There is, for instance, a certain sense of disappointment aroused when the second note of the scale proceeds to a minor third instead of to a major third. The interval between the fifth and sixth note of the scale is similarly disappointing, while the leap from the sixth to the seventh, the leading note, requires an additional effort to achieve it.

Moreover, the minor third, which is also heard in its *derived harmonic* relationship to the tonic, has not the same stability which the more consonant interval, the major third, possesses. This effect of instability explains why a cadence on a minor third is not altogether as satisfying as that which includes the major third. This latter interval occurs, only slightly modified in pitch, as the fifth partial tone of the tonic, and is therefore felt as being in close relationship with it. Composers up to the time of Bach therefore eschewed the minor third as an ending because of the feeling of dissatisfaction aroused by its imperfect accord with the tonic.

It is interesting to note in passing that Schopenhauer likened the use of the minor key in allegro movements, which he describes as characteristic of French music, to dancing in tight slippers.

This analysis of the reasons why a particular piece has a particular effect may seem a little far-fetched. But I have no doubt that when a listener says that a certain piece of music makes him feel sad, his feeling sad, except where he is already predisposed to feel sad, in which case the feeling is intensified, is due to the occurrence of some of the above features in the music. There are, however, many more musical effects which tend to convey certain aspects of feeling-states to the listener, either through association, or because of some inherent quality which arouses pleasure-pain distribution.

The second type of emotional response—the interpretation of the music according to the subject's own emotional attitude at the time of hearing—involves a very different attitude. It implies a spontaneous recognition of something in common which exists in the music and in the hearer's own mood. The music is felt to be in dynamic sympathy with his emotional state. The flow of the musical relationships moves parallel, as it were, with the emotional flow. It is surprising how readily music of even an opposite dynamic to the hearer's emotion can be made to fit in with and intensify this emotion. For example, it is possible, if one approaches the music with an emotional bias, to interpret the Cantilena of Chopin's Funeral March from his Sonata in B Flat Minor as an expression of exalted hope triumphing over sorrow; of the poignant sweetness that is often so closely allied to pain; of consolation to grief; or as expressing the keenest sorrow and desolation. All may depend on the mood in which one approaches the music. Where there is no existing emotional bias to colour the music with such extra-musical significance, the passage tends to be interpreted emotionally, by the type of subject I am considering, according to the speed at which it is played. Played fast he may be filled with a sense of triumph or exaltation—played slowly and he may be stricken with a sense of long drawn-out grief.

My own personal experience of this passage is that if I hear it when I am sad, my sadness is intensified however it is played. If I am in a jubilant mood, on the other hand, then no matter how leadenly it is played, it seems to emphasize and accentuate my feeling of jubilation.

The third state requiring to be examined is the personification of the music; or the recognizing in the music of qualities suggestive of certain emotions in the abstract. Dr. Vernon Lee describes such abstract emotional qualities which appear to be part of the music itself as the "infinitives of verbs".[1] The music is recognized as being "gay" or "sad" "or sparkling" as the case may be, without the listener actually experiencing in himself the emotions which correspond to these adjectives. This attitude occurs frequently. One realizes that if one were "gay" or "sad" or "sparkling" the music would coincide with the dynamics of these moods. This recognition of abstract emotional qualities in music may be linked up with what Dr. Lee describes as an historical emotional memory, according to which it is possible to have an intellectual remembrance of a past event and of the emotion which accompanied it, without again having the emotion in all its actuality.[2] We recall the nature of the feeling without having it again. We may indeed also have the feeling itself as well as the remembrance of it, but in the response I am considering now, this is not the case.

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[1] Vernon Lee: "Music and Its Lovers", Part I, Chapter V.
[2] *Ibid.*, Part II, Chapter VII.

The parallel between the dynamism of the emotions and the dynamism of music becomes very clear when we consider the close connections between emotion, bodily movement, and the movement of music. Dancing and music have always been regarded as closely allied arts, and the interpretation of emotion in terms of these two arts has been common throughout the ages. Dr. Lee emphasizes this relationship when she discusses in turn "infinitives of verbs", which she also describes as "emotional schemata", and "postural schemata", and their connections with the emotional response to music.

The three kinds of emotional response under consideration may be connected with Ribots theory of affective memory, inasmuch as they are all mainly based on the recognition of qualities in music which are similar to those which distinguished past emotional experience. These qualities, which Dr. Lee describes as "infinitives of verbs", in an attempt to account for their impersonal vagueness and undifferentiated nature, as well as for their *universal* emotional significance, she likens to the remaining traces left behind in the mind, of past feelings, moods, and emotions. These emotional residua she terms "emotional schemata", on the analogy of "postural schemata"—the traces of past movements.

Ribot's theory of affective memory is briefly thus: Emotional states divested of all their accompanying circumstances can leave behind them a memory of themselves. These memory images of past emotions, he claims, can be revived like all other mnemic traces, on the return of only a minimum of whatever had originally left them behind.

I prefer to describe the qualities common to music and to our emotional states by the general term of "dynamism", or as "dynamic" qualities. These dynamic qualities include all the *general* characteristics of emotions, mood and feelings, etc. They are expressive of their intensity or extent, of their swiftness or depth. It is this dynamic element which is left when an emotion fades, as a general inheritance to all our future emotional experience. The exact nature of a past emotion is forgotten with the cause which produced it. Its extent, poignancy or depth, is all that remains. But when the occasion which produced the emotion is recalled, it is on the presence of this dynamic quality that the reviviscence of the past emotion depends. Where the dynamic element is weak, as in those subjects where affective memory exists in a slight degree only, the re-having of the emotion occurs in a correspondingly weak form.

Since music in itself can never furnish facts or describe events or state propositions, unless they be musical facts or musical events or musical propositions (with the reservation of programme-music), and therefore cannot arouse the remembrance of facts, the transference of the dynamism of music to the dynamism of definite emotional states such as joy, sorrow, defiance, conflict, and so on, means that the subject *draws on an experience which is no longer a purely musical experience.* The individual is adding an extra-musical meaning to the music in order that he may translate the music into emotional terms, and thus experience it emotionally. The experience of any particular emotion depends on the recognition, it may be only implicit, of a fact, or on the acknowledgement of a relationship between onself and something external to oneself. Music of itself cannot provide this fact or this relationship. It cannot give the direction which determines the nature of an emotion, though it can qualify the intensity of an emotion already existent.

Some subjects will continue to insist that the above emotional responses to music constitute a fuller and more satisfying experience than the pure experience of following musical relationships. Obviously, to those who are not thorough-paced listeners, either from lack of inclination, or because they are incapable of it, such experience, though far less valuable from the musical æsthetic standpoint, is not to be despised.

Mr. Clive Bell, in his æsthetic study on art, has described the intense pleasure which the "snug foothills of warm humanity" give him when he descends crestfallen from "the superb peaks of æsthetic exaltation".[1] Incapable of following to any sustained degree the pure musical form of a work of music, Mr. Bell confesses that he reads into the harmonies and musical progressions that he cannot grasp, human emotions of terror and mystery, love and hate, and spends the time in a world of turbid feeling. But nevertheless he recognizes it to be a world definitely inferior to the world of pure æsthetic ecstasy which he but rarely visits; a world where the sounds of music seem "combined according to the laws of a mysterious necessity", and where music exists as "pure art with a tremendous significance of its own, and in no relation whatever to the significance of life".[2] This attitude of æsthetic absorption he finds akin to that infinitely sublime state of mind to which pure *visual* form transports him.

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[1] Clive Bell, *Art*, p. 32.
[2] *Ibid.*, p. 31.

But poverty of *musical* æsthetic experience is often enriched by an æsthetic experience that depends on an extra-musical interest. This occurs when in addition to the emotional experience directly due to the music, associations are evoked which are followed and enjoyed for their intrinsic meaning and beauty. These two responses—the emotional and the associative—go hand in hand in the case of musical experience, the emotions aroused by the music often taking their direction from the associations evoked. Such extra-musical æsthetic enjoyment, however, tends to inhibit the following of the musical relationships for their own sake. In the experience of the highly musical persons, associations tend to be repressed, for the music is listened to for the sake of its *own* meaning and beauty, and not for the meaning and beauty of associations.

I must, however, emphasize the point that no subject ever listens exclusively in one attitude. However strictly the thorough-paced listener tends to inhibit other ways of experiencing music than the purely contemplative, where he gives his whole attention to the music, he does not always succeed in keeping at this level. There is first of all the fact that true listening involves a certain amount of mental effort, which he may be incapable or undesirous of exerting. There is also the domination of an emotion or a mood which may be too strong to be diverted towards reinforcing the effort required in the intellectual following of the music.

This mood may be itself reinforced in intensity by the music. The subject may even in this way achieve a kind of spiritual and emotional catharsis through the music.

Also, the subject may *prefer* to listen associatively, or perhaps he cannot help himself and follows the music associatively or emotionally because a programme is suggested, either accidentally, in consequence of a superficial resemblance in the music to some natural sound-effect, or purposely, when a title or programme is given, or when the music is obviously imitative or impressionistic.

The success with which the attitude of æsthetic listening is taken up and sustained, and the likelihood of music's being experienced emotionally, may depend on the quality of the music itself as well as on the bias of the listener. All music, particularly music of the cheap and meretricious sort, does not induce æsthetic absorption. A professed thorough-paced listener may listen at a low level when he considers the music unworthy of greater effort. A musician may accordingly dance to jazz, and surrender himself to the physical qualities of sound and rhythm in jazz, when he would not dream of attending to it for the sake of its *musical* interest.

We now can see that music induces the emotional responses I have described in two clearly marked ways.

In the first way, as in the case of dance-music, it may make use of factors which have an obvious physiological effect on the hearer. Such features as catchy rhythms, sound combinations which arouse pleasant or exciting feeling-tone, the use of attractive or physiologically appealing timbres, and so on, help to excite a certain physiological reaction, half pleasant, half painful, in the hearer. The subject is liable to employ the force of pleasant or exciting feeling-tone which characterizes the experience of such effects in order to intensify or modify an existing mood, or to create a new one. Such factors do not in themselves, however, create a definite emotional experience beyond arousing pleasant or disagreeable feeling-tone. This often may take the form of a vague consciousness of bodily well-being, or may even produce a sense of activity in sympathy with these factors. A common example is the feeling that the body is buoyed up by the music, and floats undulatingly along in accord with the rhythmic succession of notes. There is also another example in the spontaneous movement of the body which is stimulated by the music. Such a movement occurs when we unconsciously jig our foot in time to the music.

There is also the pleasing or stirring effect which certain notes played together produce. The relative degree of absolute pleasantness and unpleasantness of the different intervals used in music has been determined fairly accurately by experiment. Octaves, major and minor sixths and thirds are the most agreeable. Successions of thirds and sixths, both major and minor, are powerfully affecting. The opening theme of Brahms's Clarinet Quintet, for example, owes much of its sensuously beautiful effect to the predominance of these intervals. In the same way certain instrumental timbres like the violoncello have a directly emotional effect on subjects sensitive to quality in sound.

Besides the music which owes its emotional effect to such directly appealing devices, there is a second type which relies on some external factor to arouse a *definite* emotional state. This is the music which centres round a concept, or a system of concepts imposed on it. Music which is definitely representative, or programmatical, as well as music of the impressionistic type, comes under this head. Successive ideas which are assigned to the music will bring the corresponding emotion in their train. Or the music may evoke an arbitrary system of ideas, or even one complete single idea, in the listener, which arouses in turn a single dominant emotion or mood. Such, for example, is the effect on me of the Cantilena from Chopin's Funeral March which I have already mentioned. Such also seems to be the effect of most impressionistic or titled music. Debussy's "La Cathédrale Engloutie" does not arouse the successive emotions which a description of the story in words would call up. There is created only a rather nebulous mood or feeling which is linked up with the mysterious unrest of the sea. A knowledge of the legend on which the title of the music is based only helps to add a certain degree of emphasis to the effect produced by the muffled notes of the bells as they toll beneath the waves. The story brings a picture to the mind; but only a vague mystical mood would be aroused by the music without the story. The music becomes the setting for the mood; or the mood becomes the setting for the music.

Thus it is only when the music is connected, either superficially, by the subject himself, or more closely because of the direct representational nature of the music, with an idea, or sequence of ideas, or with the vague atmospheric meaning which works entitled "Nocturne" or "Elegy", etc., convey, that emotional states which can be described in definite emotional terms, are aroused. Every definite emotion is accompanied by an idea or a conceptual meaning. It has its root in an instinct. Music cannot supply that idea; nor can it alone play on that instinct; it can do so only indirectly. But it *can* supply the dynamism of an emotion when emotional direction is already there. Emotional direction is afforded, that is, the emotion becomes definite, only when an idea external to the music is imposed on it by the subject himself. The idea may be suggested by a purely musical effect, either through association, or because it has become a convention to personify particular musical effects. It may also be suggested by a title, or a programme, or by the listener's own bias towards associative listening.

It is unreasonable to suggest that music makes us experience human emotions in the abstract. To be filled with a feeling of love directed towards no particular object is not a very convincing emotional state. It is "*I* love"; and further, "I love an *object*". Or it may even be the knowledge that "*some one* loves" and "*I* feel 'love' in sympathy". In music this some one may be felt to be the composer, or an imaginary hero. But unless the music is given a programme or a title there is in the music no justification for bodying forth a definite emotion. All that is there is the dynamic element which gives that emotion its intensity or depth.

Thus we may sum up our findings as to the nature of the emotional element in musical experience in this way: Where emotional states or even definite emotions are aroused by music, such emotional experience is due to the recognition of a certain sympathetic "dynamism" in the music which is akin to that dynamism which is the emotional schema or residuum of the subject's past emotional experience. The subject may interpret this dynamism of the music in terms of emotional dynamism and so experience, by the addition of some sort of fragmentary idea, a corresponding emotional experience. The extent to which he interprets the music emotionally will depend in a large degree on the quality of his emotional memory. Where that is slight, or where other factors intervene to prevent its having free play, he may recognize that the music would produce a certain mood were he disposed to feel it; as happens when he finds the music is "gay" without feeling "gay" himself.

Moreover, the definiteness of the mood or the direction which the emotion takes, and the likelihood of a particular emotion's being aroused, are due partly to the inherent tendency of the subject to supplement musical meaning with associative meaning, especially in those cases where the music possesses obvious representative features. The definiteness of the emotion may also be due to the foreknowledge of a programme accompanying the music.

Such emotional experience is, however, not a purely *musical* experience, and in many cases is hardly a musical experience at all, since it depends on an extra-musical element. Indulgence in such emotional and associative enjoyment is inhibitory to the attitude of æsthetic absorption in the music, since here listening demands undivided attention in order that the musical relationships may be grasped and followed. Interest in emotions or moods which depend on extra-musical factors must go to the wall in æsthetic absorption. Where, however, the musical relationships are easily grasped—when they are so obvious as to be taken for granted—or where they are too difficult to be properly understood, then the subject may take refuge in one of the emotional attitudes I have described.

In such a case *he experiences the music emotionally to make up for the slight nature of his intellectual grasp.* Here emotional experience and a musical experience which involves a certain intellectual grasp of the music do exist side by side, but it is doubtful whether complete absorption in the music can ever be attained where there exists an additional interest in the emotion incidentally aroused.

LANGUAGE IN EDUCATION.

By FRED. C. ROSE.

PROBABLY there is no field of activity which has been so frequently discussed and to the same extent at all ages in the history of humanity, which has been viewed with more bias and has caused greater differences of opinion, than Education, this most important matter in our social and national affairs. In spite of the volumes written on the subject, the prospects for agreement on basic scientific principles are not comparable to the definite and uniform laws that are the foundation of research in the exact sciences. Is education to be regarded seriously as a science in the same manner as biology, chemistry, physics, etc., or must we be content to regulate methods, choice of subjects and all the other problems incidental to primary and secondary educational work according to a venerable, if not somewhat hoary, tradition? If the latter question is to be answered affirmatively, then it would be wasting time to proceed with our inquiry, but, in doing so, we are compelled to admit that education is not a science in the strict meaning of the term; otherwise we would lay ourselves open to the charge of being illogical and inconsistent. Taking chemistry as an example for illustrating our point, we can prove vast changes since the Aristotelian conception of the elements; Stahl's phlogistic theory is interesting to modern chemists only for historical reasons, presenting a mile-stone on the road to present achievements. Of course, we do not suggest by our random comparison that there has been no progress or change in educational concepts; we have chosen merely a characteristic example in order to show forcefully the possible consequences of slavish adherence to time-honoured traditions. Nevertheless, clear thinkers will admit a difference in the attitude adopted by scientists in contrast to the outlook of general educationalists, and therefore it is not altogether unjust if we arrive, after a critical analysis of facts, at the conclusion that a system of primary and secondary education has not yet been established on truly scientific foundations.

It may not be out of place here to preface our special inquiry with the questions: What is education? What is the main object of education? Some people will reply readily but vaguely: Education is a general preparation for meeting the emergencies of life. They admit, when we press them for something more definite, that they mean by this some form of vocational training of our youth, something that is capable of being capitalized for the purpose of earning a livelihood, which, by the way, is becoming increasingly difficult under the economic and technical complexities of our modern civilization. Others consider general cultural attainments the only thing worth striving for, leaving the material aspects of professional and vocational requirements altogether out of their schemes, because to them the centre of gravity rests upon character formation, the maintenance of moral and ethical standards, plus a certain amount of empirical knowledge, of which the nature and quantity had been previously determined by tradition, being altered and augmented from time to time by arbitrary dicta of some forceful personality in educational matters. These points of view are diametrically opposed to one another, and acrid controversies have arisen every now and then, until the ideal was thought to have been attained by blending these principles and compromising between two extremes. However, we should like to make a clear distinction between educational activities belonging to the work in the school and contributory factors for good or evil in the home or other environments outside the school. While admitting the need for closest co-operation, our inquiry is concerned solely with the former. Following the argument to its logical conclusion, the next step then must be to determine exactly the share in educational work that belongs essentially to the school, both in the primary and the secondary stage, which latter may be considered complete when the Leaving Certificate standard has been reached.

Most thoughtful educationalists agree that the chief business of the school should consist in the inculcation of essential and fundamental knowledge and the training of all the faculties, enabling the pupils to deal for themselves in later life with the many problems and situations facing them; to develop the powers of observation and to induce constructive thinking and independent judgement; to develop character, will power, industry and orderly, systematic habits. The first stage of such a programme must be adjusted logically to the natural capacity and general characteristics of the child-mind; it requires teachers who are thoroughly trained in psychology. If all primary teachers could be made to realize fully that every normal child is eager to learn and extremely observant in its own way, furthermore if it were possible to allow ample individual freedom within wide limits to these carefully trained men and women, in order to satisfy the natural desire for information and to direct the youthful energy into the right channels, then there would be indeed few complaints as to lazy and dull pupils, while really backward children would be assigned to the care of experienced pathologists and psychological specialists. In actual practice, we find that many pupils adopt very early a defensive attitude against their teachers, a distinct antagonism, which is frequently encouraged by outside influences and becomes often enough positively intractable.

Very naturally the question arises immediately: Why is it that so many normal children display considerable energy and capacity in a direction divergent from the one desired? The only possible answer to this justified query is that the teacher, in his first approach, has failed to win their confidence and to stimulate and develop the enthusiasm which naturally exists in most young people. And the cause of this?

The larger number of empirical facts known today, the orderly arrangement of these facts, which have been investigated and verified by countless experiments, and their practical application in all fields of human endeavour have in their totality produced so vast an amount of human knowledge that it is no longer possible for a single individual to know everything. In the Middle Ages we find occasionally a scholar who, after having mastered all that the various faculties of his Alma Mater could offer to his thirst for knowledge, loses himself in the secret arts of necromancy and mystic speculation; hence the creation in the popular imagination of a figure like Dr. Faustus. Today we would regard a person like Faust with suspicion and dub him unhesitatingly as a charlatan and an impostor. Division of labour has become imperative for further progress, specialization in every direction has advanced to a stage which limits the work of individuals to a comparatively very narrow field within his own branch of scientific, technical or industrial activity, or whatever his particular contribution to the work of the world as a whole may be. Of necessity everyone must be a specialist, who cannot be expected to have more than superficial knowledge of the things outside his own sphere of interests. Yet, if he claims to be really educated, he must know where to obtain information that is beyond his ordinary needs whenever he requires it. Therefore it can be justifiably demanded that a liberal education places within his reach the fundamental knowledge which will enable him to draw on the vast stores of experience collected in works of reference by the combined effort of many specialists; it must foster and develop the ability to select, to co-ordinate and to examine critically the results of the work of others. We do not want him to cram indiscriminately a host of isolated facts, for which the said reference books provide a fitting depository. Thus education, primary and secondary, is of really enduring value only when it takes into account the relative importance of the subject matter required to be assimilated by the pupils; when it confines itself to essential fundamentals of a general applicability; when it supplies, as it were, the tools required by the future worker and thoroughly instructs him how to use them correctly and to the best advantage. Providing merely a jumble of ill-assorted empirical facts must be vigorously condemned as pernicious and positively futile, producing at best a kind of intellectual snobbery or, what is more serious, mental indigestion.

For the same reasons, early specialization is of doubtful value, since vocational and professional training cannot be attempted successfully until the pupil has satisfactorily concluded a preparatory course in general education, and until he has had an opportunity of selecting for himself a field of activity suitable to his natural inclinations and aptitude. Although it is desirable to arouse interest in the various aspects of life from the point of view of general information, in order to stimulate a free spirit of individual inquiry, we should avoid systematic specialization, because it is beyond the scope of the primary and secondary schools, unless the latter are intended to take the place of the final stage in the educational programme. Science for the Leaving Certificate or the Matriculation Examination should not be presented in the form of Botany, Zoology, Chemistry, etc., but should deal rather with the basic principles applying to them all alike; for instance, we might teach more usefully general Biology, and show the relation to Chemistry, Physics, Geography and Geology. The impossibility of drawing a sharp line of demarcation should be clearly demonstrated, so that the pupils may realize the interrelation existing between these various branches of scientific inquiry and receive an adequate conception of the fundamental unity underlying the whole of our scientific knowledge. Science taught on this broad basis would be a valuable asset in a well ordered course of secondary instruction, whether the pupils eventually take up a career at the University or not.

Language (or Languages), Mathematics, History and Literature, as well as the Fine Arts, might be brought profitably within the scope of inquiry, but since we are chiefly concerned with the first mentioned subject, we intend to focus the reader's attention on it alone. Much criticism has been directed from time to time against the examining bodies responsible for setting the standard which they consider a necessary qualification for entrance into the University, or, as an alternative, for issuing a certificate entitling the holder to the claim of having satisfactorily concluded a liberal course in general education. What, then, is the substance of these criticisms? And are they justified? If an unsatisfactory state of affairs can be demonstrated, we have to locate first of all the causes and analyse them objectively, before we can suggest a constructive programme; for destructive criticism is valueless and contrary to scientific principles.

It has been asserted that the language requirements for matriculation are too exacting, that they constitute an insurmountable obstacle in the path of otherwise brilliant aspirants to academic status. The shallowness of this view is obvious, although it does not necessarily follow that, in some respects, a modification of the requirements is not desirable. We wish to condemn merely unqualified and unreasoning hostility, an attitude which becomes quite inconceivable after even very little reflection on the rôle of language in human affairs. The spoken and the written word is, after all, nothing less than the instrument which has made possible not only the vast accumulation of our knowledge, but every cultural and artistic refinement. And yet we hear men who share in the benefits of our civilization and claim to be guardians of the rich treasures collected by the labours of countless generations, express, for reasons best known to themselves, the astonishing and positively absurd opinion that language is a relatively unimportant matter in the estimation of educational qualifications! Truly, we can hardly wonder when Schiller exclaims: *"Mit der Dummheit kämpfen Götter selbst vergebens."*

We may, therefore, dismiss clamouring demands for lowering the standard of language requirements, but the causes to which failures in this extremely important subject are due, must be ascertained before any improvement can be expected.

Speaking of Language, it should be distinctly understood that it is our intention to refer to this most characteristic of all human achievements in the widest sense. We reject making the customary distinction between English and Foreign Languages as unscientific, because other nations have made and are making contributions to our knowledge, and therefore it behoves every one of us to keep in touch with new ideas, wherever and in whatever medium they are published. Only arrogant self-sufficiency and ignorance—indeed, these two are twin sisters—would have the effrontery to assert that linguistic training is not required by the men and women who desire to serve truly the cause of human progress. Nevertheless, since the early and introductory stage in linguistic training must begin obviously with English, it is rather important to survey briefly some of the most striking facts connected with our problem.

Responsible and thoroughly competent authorities have pointed out on well founded grounds that many pupils, after leaving school, lack cultural refinement in English speech and diction, that they are unable, in fact, to use their mother tongue even with elementary correctness and precision, not to speak at all of the tragic failure to appreciate the rich treasures to be found in English Literature. Probably the causes may be traced partly to our isolated geographical position and may be partly due to the fact of being a community which can hardly be said yet to have emerged altogether from the pioneering stage of our history, and therefore, perhaps, many of our people do not fully realize the value of artistic and cultural refinement in contrast to the crude necessities of our material existence. Furthermore, many influences are at work today that have a definitely deteriorating effect on the accepted standards of English usage in Australia and elsewhere. The purpose of our inquiry is not to ascertain the extent and the nature of such evil influences, but to suggest suitable measures for insuring a reasonably high standard in the use of our own language by all who claim a certificate for a good general education. It seems then as if too many subjects and too much specialization in our schools have gradually encroached on the time used formerly for teaching English, while it is tacitly accepted by others that it is not even necessary to set aside much time for this study, because continual contacts with the spoken language and reading will spontaneously develop the powers of expression through the medium of the spoken and the written word. This may be true to a certain extent, if the environment of each individual pupil is right, and provided that his reading is very carefully supervised and the beauties and faults of various authors are pointed out to him; but experience has proved this purely inductive form of training to be incapable of developing precise and creative literary expression. We must supplement it from a very early stage with essay writing and oral practice, the latter preferably without much previous preparation. But that is not all. Real knowledge of the significance of grammar in the forms of expression used in our own language and facile command are not fully brought out until we have studied other languages, until we know something of the totally different expedients employed by people with a different outlook and a different mode of life, in order to attain the same practical result. A really good style can be acquired only by comparative studies, for we cannot realize fully the characteristics nor the limitations of our own medium until our judgement has been sharpened by comparisons, and it is through an intimate understanding of these limitations and individual characteristics that we can hope to arrive finally at the highest form of literary expression.

This consideration brings us to the much debated subject of foreign languages in educational work, since we can now approach the problem with definite ideas on the *modus operandi* and an accurate conception of essentials and comparatively subordinate side issues. If the cultural and utilitarian value of foreign language study is admitted—and a difference of opinion in this respect cannot be seriously thought of—then our business must be to examine critically the work done at present and the average results accomplished by it. We say intentionally *the average results,* as in the past criticisms have been frequently countered by drawing attention to the brilliant success obtained by some pupils, it being perhaps deliberately forgotten that these brilliant successes are not obtained by reason of the excellence of present methods, but in spite of them. These questions arise and require a fearless answer: Are our present methods based on truly scientific principles? Do the pupils derive a lasting benefit from such work? And is primary and secondary instruction in language sufficiently broad and organized in such a manner that the pupils can make practical use in life of their knowledge, when they are no longer subject to the compulsory discipline of the school? The only possible answer to these pointed questions is a most emphatic NO. The truth is often unpalatable, but it must be faced. However, destructive criticism of this kind serves no useful purpose, unless we can show the weak points in the present system by an objective analysis of methods and the psychological factors involved, and unless a constructive programme can be suggested in the place of the faulty one.

Since language is the common property of all humanity, whatever the means employed in different national forms of oral and written expression, it will be obvious to thoughtful inquirers that the first approach to the subject and the subsequent planning of the more advanced stages of foreign language study should be closely parallel to the natural development of the native idiom. The only differences are psychological in so far as foreign languages are usually commenced at a period of greater mental development than the child possesses, when it makes its first attempt at imitating the sounds heard in its environment. Moreover, in the case of the mother tongue, there are greater opportunities for continual daily contacts, while in the foreign language they must be created artificially in the majority of cases, which can be done, nevertheless, quite readily by means of reading. In the first instance the whole of the work—for work it is, though it is without drudgery for normal children—is accomplished orally, while in the latter instance we must naturally rely on an appeal to the sense of sight, excepting perhaps the few favoured cases where the oral appeal could be applied successfully to the foreign language also. On closer examination we find the difference only an apparent one for practical purposes, because the factors involved and the natural sequence of these are essentially the same in both cases.

Let us look at the problem confronting the child in order to prove the correctness of our statement. It is very probable, though difficult to prove, that very young children understand what is said long before their first active attempts at speaking. The next step is the acquisition of elementary vocabulary, single words which are often pronounced faultily and as frequently applied incorrectly, too, until experience gradually establishes definite thought association with familiar objects. Normally no attempt is made at this stage to speak in connected sentences, and anybody who cares to observe carefully will agree that the average child does not at once master the intricate relation between noun and pronoun or the complexities of tense and mood in the verb. A tiny tot will refer to itself by its own name, similarly to Mother, to Father, to Table, to Puppy, to Pussy. Then short sentences are begun, mostly incomplete and imperfectly constructed, for instance—"Jackie want eat"—"Puppy bite Pussy tail"—"Mammie naughty boy beat Jackie"—until, by frequent corrections and unlimited patience, the child learns by purely empirical means and shrewd observation of its own the elementary grammatical use of the language, very rapidly in some cases or slowly in others. If much of the so-called Baby Talk is heard, it is probably that the orderly progress is somewhat retarded, but this outstanding fact should provide food for thought: an average of four years is generally sufficient for giving complete command of language well adapted to ordinary needs and the stage of the mental development corresponding to the age of the child. Then the school continues the work begun in the early environment, introducing by degrees new problems and adding the visual representation of the previously oral experience, till at last a stage is reached when deliberate instruction in grammar can be given profitably. However, it is most important for our argument to remember that the grammatical instruction was preceded in all cases by a long period of empirical preparation.

Turning to foreign languages, what procedure do we find in general use? Apparently it is commonly assumed that the pupil has by this time acquired sufficient interest in abstract grammatical facts, and the first approach to the new subject accordingly takes a different form from that shown above in connection with the mother tongue. Although the assumption may be correct with some individuals and to a certain extent, more frequently the opposite would be nearer the truth, while one important consideration is often forgotten altogether, *i.e.*, that grammar is nothing more or less than analysis and the correlation, in a systematic manner, of observed facts; that a language, whether simple or complex, is actually used by a people, before grammarians, like other scientific investigators, came along and began to inquire into the living phenomenon of speech. They analysed the morphological structure, traced the evolution of existing forms to earlier and more primitive ones and collected gradually a large number of isolated facts, which were correlated, until a complete and systematic arrangement of the knowledge gained by their labours led them to comparative grammar and the study of Literature in the widest sense. These investigators are specialists in their chosen field as much as the zoologist or the chemist is in his, but the average boy or girl, at the age when Latin or French is usually introduced into his or her plan of study, is not in the least interested in such abstruse problems. On purely logical grounds, too, the grammatical approach cannot be defended, for, since grammar is essentially analysis, how can we expect these young people to be interested in the analysis of something they do not yet know? Hence it is really surprising if occasionally we do meet a student whose healthy mental attitude towards so important an aspect of life remains unimpaired after such monstrously barbarous treatment. At the present time a book is in use in a number of the schools in this State which opens with the following negative statement: There is no neuter gender in French. Now the average boy or girl of ten or eleven is not at all interested in grammatical gender but they are as eager to find out what the French or the Germans call *the house, the flower, the river,* as they are to learn all about aeroplanes, other countries or Red Indians. If we satisfy their natural curiosity, we offer them something concrete. The writer's personal experience in the past has been that abstract problems solve themselves without difficulty, if we allow the young mind sufficient time for adjusting itself to these new ideas.

The first essential for the success of the teacher's work is to awaken the interest of his pupils, to gain their confidence, and, having established this vitally important preliminary condition, he will have no complaints about indifference or active antagonism on their part.

In the same manner as the child acquires its first English vocabulary orally, we must present by sight (through reading) and orally also the French or German equivalents, although the given conditions are rarely favourable in the latter respect. If we let the children become familiar with the most fundamental words used in the language through the medium of interesting and simple stories written by Frenchmen or Germans for children of the same age, the pupils will acquire quickly a wealth of word material, as they did in the mother tongue. It is no more necessary that the young students should understand at once all the grammatical relationships than it was required for their early efforts in the native idiom. Indeed, there are many complexities which in the beginning are clearly beyond their mental capacity and, what is more, they really do not matter at this stage. Any attempt, on the teacher's part, to dwell on abstract problems before some foundation has been provided empirically, will produce immediately antagonism and defensive reaction in the majority of the pupils, a psychological difficulty which is extremely hard to counter and which frequently is never quite overcome. The argument that some grammatical understanding is already present at the age when foreign languages usually are first begun, loses its force as soon as we take into account that there are too many new impressions, which the young mind must adjust itself to first. Besides, the most important theoretical facts should impress themselves through practical observation in representative examples of usage rather than through the arbitrary selection by the teacher of academic propositions which, at this stage, mean little or nothing to the pupils. If the children are allowed and encouraged to think for themselves, we foster a spirit of free inquiry, a joyful satisfaction of having made a discovery; thus they become intensely interested in their work, and it is really surprising how soon they begin to ask pertinent questions. They observe that the forms of the French article, *le, la, les,* or the German equivalents, *der, die, das,* are always represented by the single English form, *the*; as soon as they desire to know why this is so, the right moment has arrived for explaining grammatical gender and for demonstrating that the practical identity of sex and gender in English does not exist in French and German. Other important facts can be impressed in the same way, and the fundamental principles can be forcibly driven home, one by one, whereas under our present methods the pupils attempt wearily to follow mere academic technicalities without understanding their true significance in the established usage of the living idiom, until they finally tire in the hopeless struggle and lose interest altogether. The vital differences of the logical meaning between "il mourait de faim" and "il mourut de faim", between "six heures vient de sonner" and "six heures vient à sonner", between "man sagt, er ist gestorben" and "man sagt, er sei gestorben", must be experienced practically, before we can show convincingly, by grammatical analysis of the components, how the subtle difference in logical meaning is produced by the correct employment of word and grammatical form.

Another factor causing lack of interest or positive antagonism in the greater number of pupils is the choice of the material used for the purpose of illustrating and practically emphasizing the abstract propositions which are the essence of almost every textbook used in our schools. Who of us does not remember with horror and disgust the extraordinary dull and stupid sentences we were required to translate and re-translate? "Have you seen the house of my grandmother? No, but I have the tailor's pen." Can we wonder if bright and mentally active children hate work of this nature and do it only under compulsion? The whole system employed in the type of book referred to is strongly at variance with the most elementary psychological principles of mental development. We confront them with an abstract fact that means nothing to them, and then we try to impress this fact by a number of sentences made up specially to suit this fact, sentences which are not only devoid of interest, but are furthermore so different from practical usage that School French and School German have become proverbial and the subject of caustic witticisms. The final result of this deplorable method is at best a certain mechanical facility, which breaks down at the first practical test, and which is promptly forgotten as soon as the wearisome routine of the schoolroom is exchanged for the glorious freedom from the schoolmaster's dominance.

(*To be continued.*)

VIRTUE.

By JOHN ANDERSON, M.A.,
Professor of Philosophy, University of Sydney.

ONE of the main difficulties confronting students of ethics is the establishment of connections and distinctions between exact ethical conceptions and the popular moral conceptions to which they have been accustomed. They have learned to speak of various virtues, *e.g.*, of justice and generosity, and to consider their place in a general scheme or hierarchy of virtues—exemplified in the common saying, "Be just before you are generous". It is scarcely to be expected that such popular conceptions will survive intact in a scientific ethics, but so widespread and deep-rooted in ordinary thinking is the notion of virtue that the student will not readily reconcile himself to a view which asks him, in the name of exactness, to dispense with the notion altogether. Nevertheless this will, I consider, be the logical outcome of the recognition of ethics as the study (or as embracing the study) of positive goods—or, as they are sometimes called, "intrinsic" goods, *i.e.*, things which are good in themselves.

If we assert the existence of goods and take "virtue" to mean (as it seems to have meant in many moral theories) a habit or condition of mind which promotes such goods, we are faced with the difficulty, already noted by Socrates, of distinguishing one virtue from another. We may no doubt distinguish the promotion of good A from the promotion of good B, but it is another thing to say that two such promotions must arise from distinct habits of mind; and it is clear that justice and generosity, at any rate, are not distinguished by the species of good that they promote, but rather by the amount in relation to a given situation (particularly as compared with the amount "expected" in that situation). A distinction in terms of different modes or methods of promoting good could hardly be consistently worked out; for different methods produce results which, though they may agree in certain particulars, differ on the whole, and will in general differ in goodness.

Now if the attempt is made to distinguish justice from generosity in terms of the amount of good produced, this, as above suggested, may be done by reference to the amount *expected.* More generally, reference might be made simply to the *good* expected. But, in either case, it would remain to be shown that it *is* a different habit or condition of mind that produces expected goods, from that which produces unexpected goods. Supposing, also, that one could have a distinct habit describable as "doing what was expected of one", it is obvious enough that that habit would not always be productive of good. Hence we can have, as the description of the virtue of justice, nothing less than "doing those things which are at once expected of one and productive of good"; and similarly the virtue of generosity will consist of "doing those things which are at once productive of good and *not* expected of one". But it seems clear that the existence of such habits could be determined only after the event and by reference to the results produced. In fact all we should be confronted with in the first instance would be the results—which might have arisen from a variety of quite distinct habits of mind.

Besides the fact that what is commonly expected is not always productive of good, it is also to be observed that we do not start with a definite distinction between expected and unexpected goods, so that in relation to the former we could develop one habit or set of habits and in relation to the latter another. On the contrary, we find, subsequently to the operation of our habits and tendencies generally, whether the results are expected or not by the people round about us; and (leaving out of account the fact that totally different things are expected in different circles) such habits as are maintained do not alter in nature from the fact that they are found to be expected or unexpected. There is the further consideration that it is not at all possible to draw a line of division among results, so as to say that in generosity we produce all the expected results and then in addition certain unexpected results; but the latter complicate the former, so that, for the most part, producing unexpected results involves not producing expected results—*i.e.,* "generosity" will be "unjust"; a position exemplified in the notion of "favouritism".

It may be said, then, that habits, operating in their characteristic ways, become directed towards specific ends, whether these are expected or not; and though the operation of other people's expectations may assist or hinder that of a particular person's habits, expectedness or unexpectedness will not be an object to the latter except in the rarest of cases. It may be said also that even in a single circle there will be no definite distinction between the sorts of benefit expected and the sorts unexpected, and no exact determination of amounts expected. Moreover, on any view, it would hardly be esteemed virtuous to refuse to produce certain goods because they are not expected; virtue would rather be held to consist in producing all the goods one can (or in producing goods *qua* goods). We are left, then, with the fact that certain habits promote certain results, and, where the results are good, it may be permissible to call the habits "virtues"; but ambiguity will be avoided if we simply describe them as *productive of good.*

If a reference to "obligation" is introduced, it is clear that there can be no distinction between duties of perfect and duties of imperfect obligation. Either actions produce goods or they do not, either we are capable of performing them or we are not; we cannot then be under any less obligation than that of performing all the good-producing actions of which we are capable. If it is said that "we cannot be *blamed* for not being generous", the answer is (assuming such generosity to be really productive of good) that we have not performed some act of which we were capable and which would have had good results. Whether that statement is taken to constitute "blame" or not is a matter of indifference; there is no dubiety about the facts—allowing, for the sake of argument, that a statement of the form "I could have done X but I did not" *can* be a fact.

But, of course, we can only carry out specific actions on the basis of specific habits (and we only acquire such habits on the basis of previous habits and previous circumstances); hence there is no question of "obligation" at all, but only of what sort of habits do produce good, however that may be decided. This is not to deny the fact that we control and modify our habits; but what is this "we" that does the controlling? Simply other habits. And such interaction takes place solely in accordance with the nature of the habits and the influence of circumstances. A person cannot be "obliged" to act in accordance with habits he does not have; and he *will* act in accordance with the habits he has. That is all that the confused theory of "self-realisation" amounts to; and it draws the quite unwarranted inference that all such action is good—unwarranted because it implies that all action is good. Since clearly some actions are not good (if goodness is to mean anything at all), and since we always act as we "can't help doing", the solution is not to identify the latter with "obligation" and thus virtually drop the notion of goodness (for then "obligation" would become equally meaningless), but to drop the notion of "obligation" and retain goodness as a character which, simply as a matter of fact, belongs to some things and does not belong to others.

But it is only on the theory of obligation (because some ground has to be found for making out any act to be more obligatory than another) that acts have been judged by reference to their results or what they promote. If this notion is removed, ethical theorists will have no reason for considering activities which promote good in preference to considering activities which *are* good. There is, running through this "ethics" of promotion, the assumption that there is no dubiety about what is good (it is simply some sort of satisfaction viewed as an end-result or state; something finished), but only about whether we shall *will* this result or not. That is the position of moralism; and on that view virtue, which is "obligatory" because it is not automatic, consists in "willing the good". Kant tries to get out of the difficulty (of the supposedly obvious, but actually unspecified, good) by making *willing* itself good. But clearly willing is a relation, and we are not specifying what is good by stating what relation it has to something else; still less can we make its goodness consist in this relation.

The question of what sort of things "promote good", *i.e.,* cause good things to come about, is, then, subsequent to the question of what things are good. I should maintain that the most regular causes of good things are simply the good things already in existence, but the proof of this will naturally depend on the recognition of a specific class of good things. That class I consider to be a species of mental activities. On that understanding, ethics will inquire into mental activities, not primarily to discover what effects they have, but to observe what characters they have in themselves and to note, in particular, which of them have and which have not the character of goodness. It will not be denied that goodness and mentality have been closely associated throughout the history of moral speculation; and there must certainly be some class of goods, whether mental or non-mental. If it be contended that goods are non-mental but that some mental activities are more effective than others in promoting them, it will only be by confusion that there is said to be any "merit" (*i.e.,* a kind of transferred goodness) in that promotion. On either view, then, ethics will have no special use for the conception of "virtue".

Those who admit that some mental activities are good in themselves, may, however, contend that it is precisely those activities that should be called "virtues"; or an attempt may be made to rehabilitate the recognised virtues by saying that they *are* the activities which are intrinsically good. Now, if we like, we can use the word "virtue" as a synonym of "good", though one word should surely be enough. But the ordinary notion of virtue certainly involves a consideration of effects produced and a valuation in terms of effects produced and not of the characters of the activities themselves; and, most specifically, the virtues ordinarily catalogued are so judged and praised. According to this method of valuation, then, unless we are going to "praise" pleasure or satisfaction, we cannot praise virtues because they produce pleasure or satisfaction, but only because they produce other virtues—which again are praised because they produce other virtues, and so on. If we are to avoid this infinite regress (or a fundamental ambiguity in the notion of "praise"), we must praise things, *i.e.,* find them good, not in respect of what they produce, but in respect of what they are.

Ethics, conceived in this positive way, will involve an inquiry into what is meant by "good" (or what goodness implies), as well as into what sorts of things are good; and it will, of course, take account of how these things are produced and what they produce. There is nothing illogical in recognising relations between specific things, though it is illogical to make relations the specifications of things. In fact, it is only by taking the positive view of ethics that we avoid the infinite regress or circularity or confusion into which theories of "virtue", "satisfaction" and the like, inevitably fall.

DIFFERENT QUALITATIVE FORMS OF PSYCHICAL FATIGUE AND THEIR PHYSIOLOGICAL CORRELATES.

By PROFESSOR V. A. VOLKOVICH,
Moscow.

PROFESSOR NECHAEV in his article "Psychology and Radio" (THE AUSTRALASIAN JOURNAL OF PSYCHOLOGY AND PHILOSOPHY, 1–2, 1933) gives a description of a simple psychological method, which permits (according to his opinion) the registering of not only the different grades of psychical fatigue, but also its different qualities in the sense of a comparative reduction of sensory or motor process. But it would be necessary for a complete persuasiveness of this statement, to prove that to the characteristic changes of sensory-motor harmony, which indicate sensory or motor weakness, correspond analogous physiological changes. Neuropathological observations have long ago established not only a difference between the sensory and motor forms of psychical fatigue (when either a reduction of memory and attention, with the presence of a motor aptitude, is remarked, or an inertness of motor impulses at a comparatively high level of memory and attention), but also a relation between those psychical states and the changes in neuro-muscular and vaso-motor systems. What relations can be established between the different kinds of psychical fatigue (as they are qualified by Professor Nechaev's method) and the changes in neuro-muscular and vaso-motor systems (as they are established by the usual method of neurological researches)?

Studying the influence of Narzan baths on 194 invalids (172 men and 22 women) in a series of sanatoriums in Kislovods (Caucasus) in 1931, we contrived to compare the results of these experiments of sensory-motor harmony (according to Professor Nechaev's method) with the results of careful neuropathologic researches made by experienced clinicists.

In the total we found the following:

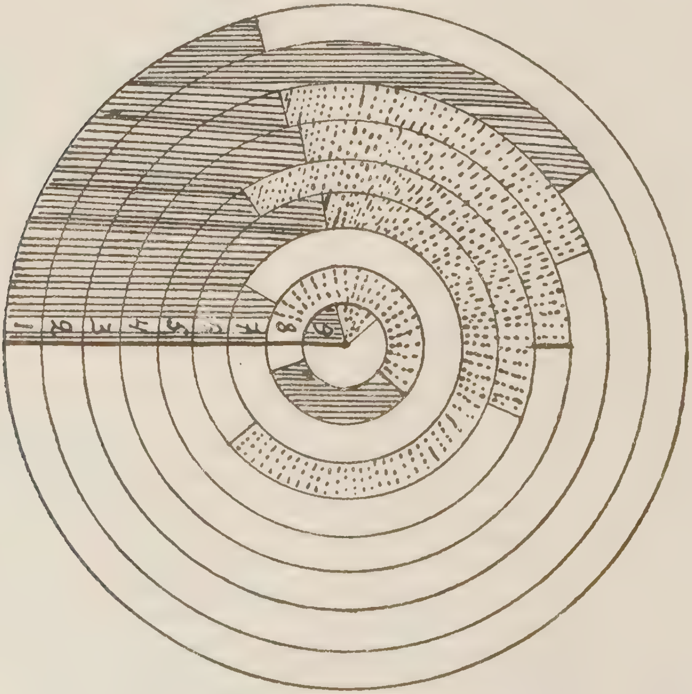
(1) Persons with normal coefficients of sensory-motor harmony (80–120), in a parallel test by special medical methods, in most cases showed normal reflexes, firmness of equilibrium (absence of Romberg's phenomenon), a hardly visible tremor of fingers and eyelids, a calm sleep, a normal or decreased blood pressure and a normal specific gravity of urine.

(2) Persons with reduced coefficient of sensory-motor harmony (under 80), that is sensorily enfeebled, in most cases showed heightened reflexes, a stronger tremor of fingers and eyelids, unsteadiness in equilibrium (Romberg's phenomenon), a less calm sleep and a lower specific gravity of urine.

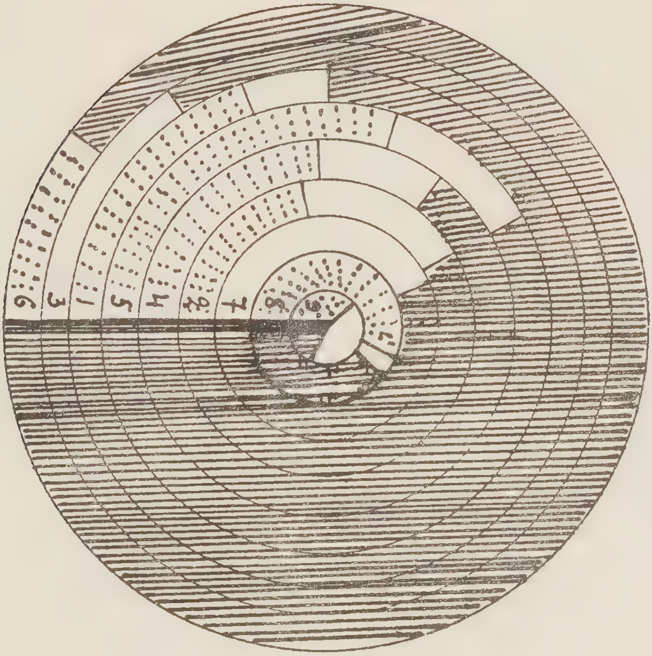
(3) Persons with heightened coefficients of sensory-motor harmony (over 120), that is motor enfeebled, in most cases showed lower reflexes and a higher specific gravity of urine.

More detailed data may be found in the following tables, with accompanying diagrams.

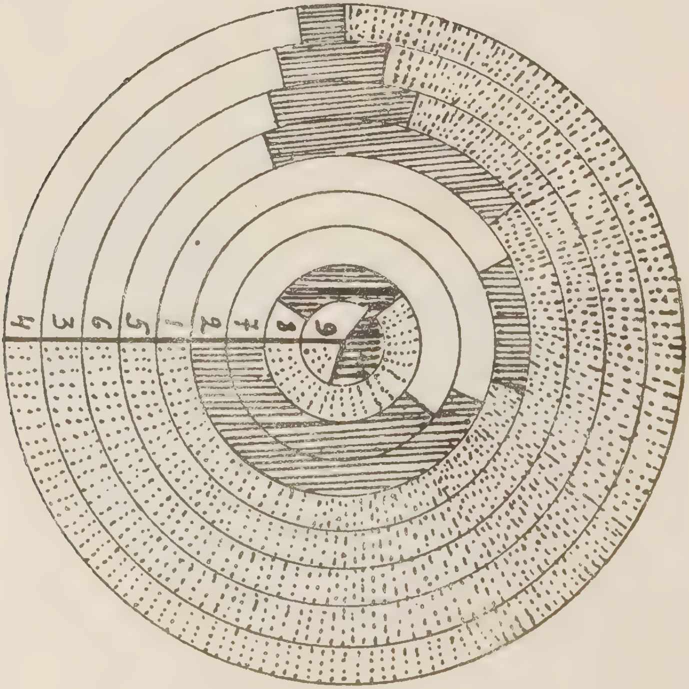
	Normal.	Heightened.	Reduced.
I. By persons with a normal coefficient of sensory-motor harmony (80–120):			
1. Knee reflex	79%	21%	0
2. Dermographism ..	60%	40%	—
3. Pupillary reflex ..	55%	22%	23%
4. Tremor of fingers and eyelids	50%	22%	28%
5. Achilles reflex ..	44%	16%	40%
6. Romberg's phenomenon	12%	23%	65%
8. Blood-pressure ..	6%	36%	58%
9. Specific gravity of urine	59%	20·5%	20·5%
7. Sleep	93%	Troubled—	— 7%



	Normal.	Heightened.	Reduced.
II. By persons sensorily enfeebled (coefficient under 80):			
1. Knee reflex	5%	79%	16%
2. Dermographism	15%	85%	—
3. Pupillary reflex	21%	60%	19%
4. Tremor of fingers and eyelids	12%	67%	21%
5. Achilles reflex	12%	68%	20%
6. Romberg's phenomenon	0	90%	10%
8. Blood-pressure	2%	40%	58%
9. Specific gravity of urine	44%	19%	37%
7. Sleep	47%	Troubled—	— 53%



	Normal.	Heightened.	Reduced.
III. By persons motor enfeebled (coefficient above 120):			
1. Knee reflex	18%	24%	58%
2. Dermographism ..	57%	43%	—
3. Pupillary reflex ..	17%	9%	74%
4. Tremor of fingers and eyelids	20%	3%	77%
5. Achilles reflex ..	19·5%	19·5%	61%
6. Romberg's phenomenon	0	29%	71%
8. Blood-pressure ..	7%	29%	64%
9. Specific gravity of urine	44%	38%	18%
7. Sleep	60%	Troubled—	— 40%



DISCUSSION.

ACADEMIC FREEDOM.

A REPLY TO PROFESSOR W. ANDERSON.

By F. A. DE LA MARE, B.A., LL.B.

PROFESSOR ANDERSON'S article in the last issue of the Journal (Vol. XII, No. 2) deals with important issues, and it is because of the importance of the issues that the article under review should not be allowed to go by default. It may, perhaps, be said that the form of the article, a speech delivered in the midst of a heated controversy, places it at a disadvantage when approached dispassionately. There are few of your readers, indeed, even in New Zealand, who will know anything about "the strictures of self-righteous and ill-informed individuals to the Southward who (as a variant upon their more usual teaching of the need for emancipation from all traditions whatsoever) now make a parade of what they describe as the high traditions of their own institutions in the matter".[1] Nor will there be many "who are able to appreciate at its true worthlessness the impossibilist[2] line of criticism that has been taken against the solution proposed here in Auckland". The Professor, it is to be noted, does not supply the references to those utterances to which he appears to have reacted inharmoniously, but there is nothing either in the geographical distribution[3] of University protagonists nor in Professor Anderson's own words to make any statement whatever by one such inherently impossible. Professor Anderson's invective, in fact, convincing as it might be in a rough-and-tumble (where references are neither given nor taken), breaks no heads in the real contest.

The article in question is, moreover, unfortunate in another respect. The real issue, the motion of Mr. W. H. Cocker, has to be relegated to a footnote and the limitations apparently imposed by the speech seem to have precluded the Professor from retrieving it from its textual obscurity. It is not necessary to repeat the text of the motion. It is enough to say that Mr. Cocker was fighting for one thing—the right of free speech *within* the University as it exists *outside* the University.[1] That, and nothing more. Dr. Ranston was fighting for something else, what he called "*legitimate* academic freedom". It is with the latter that Professor Anderson identifies himself. The present writer, not being able to explain the meaning of "legitimate academic freedom", can only quote the author. "I have throughout", writes Dr. Ranston, "consistently maintained one position, that is, not a censorship, but that, whenever with respect to the actually delivered utterances of a teacher, questions arise as to whether they are or are not an abuse of academic freedom and a wrong use of a University imprimatur, all matters relating thereto shall be handled by the Professorial Board or its Committee." Readers must decide for themselves whether Dr. Ranston's programme actually amounts to a censorship; whether it merely imports a threat; or whether, shutting the stable door after the escape, it really means nothing after all. Our Professor may be taken to approve Dr. Ranston's statement, but there appears nothing in the article to help us in defining its terms.

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[1] The writer, after 30 years of intimate knowledge of the N.Z. University, would be unable to make the necessary identification without some knowledge of the Professor's animosities.

[2] Diligent research fails to supply the philosophic connotation of this term. There is nothing in the Oxford Dictionary between the words "impossibilification" and "impossibilitate".

[3] The amendment, moved in Auckland, and supported by Professor Anderson, was lost.

Having done something to give your readers a little more information concerning the issue, one may pause to point out that, as our author's enthusiasm indicates, we are dealing with a real controversy based upon real facts. It may be assumed that the context, not to mention the "atmosphere", cannot be understood without the facts. The Members of Convocation present at the meeting knew a great deal more about the context than most of your readers, and it would have made for general understanding if the position had been stated, even at the expense of another footnote. The story is rather a long one, and the relevant—and available—documents have not yet been published.[2] It is known, however, that Dr. R. P. Anschutz, a member of the Auckland University College Staff, not unknown to your readers, wrote a foreword to a booklet concerning Russia. There was, in this foreword, nothing which could be construed as advocating violence or lawlessness, but the Minister of Education wrote to Sir George Fowlds, the President[3] of Auckland University College, concerning the matter. The terms of the Minister's letter are not available because the College Council refuses to supply them. That the question of the fitness of Dr. Anschutz for his position was raised by the Minister, merely on the ground that he spoke with favour of some phases of the Russian experiment and invited his readers to make a dispassionate study of communism, is currently believed. What is beyond the realm of serious controversy is that Sir George Fowlds found the Minister's interference[1] unpleasant and embarrassing, and, when two other young and innocent[2] members of the Staff, thinking that a public protest should be made against a prevailing intolerance, suggested that he should sign a letter called "Communism and Hysterics", the fat (so to speak) was in the fire. Sir George issued a famous Circular in which he asked members of the Staff not to embarrass the administration by writing letters to the papers on subjects concerning which they might be ill-informed. The famous Circular contained an infamous threat:

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[1] The question as to whether the University teacher should be placed in the position of a Civil Servant and so in a special category is not raised in this discussion.

[2] A collection is in preparation, and, it is hoped, will be shortly published.

[3] Since resigned.

> "I regard recognition, by members of the Staff, of the responsibilities referred to in this Memorandum, as a matter of vital importance, and as being intimately related to the question of fitness for tenure of a University post."

There is no space, nor would a good purpose be served in the present discussion by giving a recital of subsequent happenings. That Circular is still an instruction to the Staff[3] and four new Professors were appointed who were not notified of its terms. The point of Professor Anderson's speech is now, it is hoped, related to the facts. Mr. Cocker was fighting for the right of members of the Staff to express their opinions, provided they did not contravene the law, whether the President chose to feel himself embarrassed or not.

It is quite true, as Professor Anderson explains in another abundant and illuminating footnote, that the painful position in which Sir George found himself was to some extent relieved.[4] It was not the Council, not the Professorial Board, not University opinion which came to the rescue. It was Mr. M. Rocke O'Shea, the Registrar. Just returned from a trip to America, and, incidentally, England, it occurred to Mr. O'Shea that Staff publications concerning such thorny subjects as Communism would be less troublesome if removed from the administrative side and switched over to the academic. The suggestion was superficially ingenious, but to those cynics who regarded Mr. O'Shea as Sir George Fowlds' draftsman it was subterraneously entertaining. Neither Mr. O'Shea, however, nor a Council wont to follow dutifully in the President's footsteps, noticed that the critics were in reality objecting to a Censorship and the objection would not really be surmounted by substituting one form of censorship for another. Such an objection would of course immediately occur to members of the Staff, for might not Professor Anderson become the Censor of Mr. Dickenson, a weighty and non-apologetic lecturer on exchange from Leeds, whose hobby is Russia. The only possible answer to this contention is, of course, that such a substitution is exactly what was intended, and is good. Professor Anderson appears to adopt this view. He conceives that some such procedure and some such discipline are inherent in a proper organization charged with the defence of "legitimate" freedom. "Or is the right of (academic) free speech", he asks, "in the peculiar position that the sole permissible method of defending it is to do nothing." The issues on this head may now be left to your readers with, perhaps, one or two comments. Firstly, this article is a painful commentary on the fact that the defence of this freedom involves something more than doing nothing. Secondly, the need for a Censorship of University teachers has not been established. Thirdly, conceding that we do live within a community, Professor Anderson, neither on the facts put to Convocation nor on any others, has even attempted to prove that the Auckland Staff is unfit by reason of anti-communal activity to wield "legitimate" freedom without the extraordinary and unique machinery designed by Mr. O'Shea.

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[1] Sir George has been Minister of Education himself and he seems not to have survived the illusion that the voice of a Minister combines the more august properties of *vox populi* and *vox Dei*.

[2] An elementary psychological clinic would have informed the delinquents that they were looking for trouble and would probably get it. They did.

[3] At the time of writing notice has been given by Mr. Cocker of a motion for its withdrawal.

[4] By a counter-irritant.

The next "main point", that if we are to claim academic freedom we must first be academic, seems to achieve its importance from the self-contradictions and illogicalities of Accreditors, Daltonians, Neo-Educationists *et hoc omne genus.* No doubt the Professor has suffered much at the hands of these aberrations, but whether he is to "take them seriously as partisans of academic freedom" seems to matter very little indeed. If, however, we have "emptied out of University education everything that gives it the right to resist alien domination", then, of course, we had better cease calling the institution a University, and start again. Surely, however, those who do not wholly admit the soft impeachment may be excused for doing something for Professor Anderson by giving to his University position some claim to the name it bears.

It becomes necessary to say something concerning Professor Anderson and the theoretical case for freedom. The argument of that "eminent Victorian, John Stuart Mill", is disposed of, with true judicial brevity "in a few short sentences". Very humbly, the present writer concurs with the late Mr. Mill and dissents from Professor Anderson. Mill's argument, as stated by this protagonist, is "to the effect that the enunciation of a single new truth is so important as to impose upon the community the duty of encouraging the expression of an unlimited quantity of apparent errors on the off-chance that one of them might turn out to be it", and, he says, "it is not distinguished by a sense of proportion, and indeed appears to border on the hysterical. Anybody surely can call to mind a hundred true propositions which would not be worth the risk". To which one can only reply that, in Professor Anderson, the Church[1] has lost a great ecclesiastic. It is, at any rate, submitted to your readers, for they may be taken to know the essay on "Liberty", that here is a conspicuous example of one who is able to deal with words, but, under pressure, is unable to grapple with meanings.

It must be admitted that Professor Anderson becomes far more interesting when he comes to the "moral argument" for free speech, and the death of Socrates, in which everyone is probably interested, helps him out. Accepting Professor Anderson's view of Socrates, however, it is only necessary to point out that the great philosopher stood firm on the law of the community. Mr. Cocker stood for the same principle, and to the law of the land Mr. Cocker was able to add the practice of every British University, including the University of New Zealand,[2] with the sole exception of the College of Auckland. But surely Professor Anderson is begging the real question. The discussion is really not concerning Free Speech in general, although that is no doubt not entirely irrelevant. Professor Anderson's contribution is called "Academic Freedom", and there is much gain in discussing one question at a time. Mr. Cocker's argument, as we have seen, was that University teachers should have the same rights as the rest of the community, whatever those rights might be—the rough with the smooth—just another application of the Socratic method which Professor Anderson may, possibly, be said to approve.

Now, for the Professor's "final point". One who is not a University teacher may perhaps speak with firmness and frankness to one who, like Professor Anderson, is proclaiming martyrdom and the "duty of free speech", while at the same time defending the powers enthroned[1] and autocracy degraded by a flagrant and discreditable threat. The present writer, not being subject nor subservient to any threat, wishes to make the world safe for martyrs, even for Professor Anderson when he happens to belong to the unpopular side. Having no knowledge of the man who is "snooping around cadging guarantees beforehand", one can only deplore invective which charges with underhand and sordid motives an unnamed opponent or set of opponents. The way of courage, as of wisdom, is to fight for the principles which seem to us good, when and where they are attacked. The community, at any rate, will be wise if it can by any means preserve for its use those rare spirits who prefer death to dishonour, and the best way to preserve them is so to order our institutions and policies that questions of victimization and injustice shall not be easily raised even at moments of crisis.

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[1] That is, any Church to which the reader does not belong.

[2] See a Memorandum from the University Teachers' Association (N.Z.) to the University and Governing Bodies within the University.

Note.—Possibly no discussion of academic freedom in New Zealand is complete without reference to Section 59 of "The Finance Act, 1932". In effect, this section has reduced the rank and file of the Civil Service to a condition bordering upon panic. The threat is directed against the job and in these days of cuts on the ground of economy no one is believed safe who holds views which may be suspected of hostility to the existing Capitalistic System. Not even in the worst days of the Seddon administration was such a spirit of widespread fear manifest. The reactions of Chairmen[2] of College Councils to Ministers of the Crown, who hold the purse-strings, therefore become extremely important. From these Ministers comes the doctrine that he who pays the piper calls the tune, and a Minister is apt to believe that because he holds the purse he is the person who pays. In New Zealand it actually happens that we have an Attorney General who is a farmer and a Minister of Education who cannot be conceived as ever having entered a University except to destroy its images with his economy axe. These are matters concerning which Professor Anderson gives neither word nor sign.

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[1] In Auckland.

[2] Only in Auckland is there a "President".

REVIEWS.

FUNDAMENTALS OF THE ESOTERIC PHILOSOPHY. By G. de Purucker. London: Ritter and Co., Ltd., 1932. Pp. 550. Price, 38s.

This imposing volume sets out to expound, in terms suitable to twentieth century esoteric knowledge, "the small corner of the dark veil. . . . after millenniums of silence and secrecy", which is H. P. Blavatsky's "Secret Doctrine".

We get the impression simply of an exploitation of the mystical side of Brahmin thought for the express confounding of commonsense, when we read of "the cosmic pilgrimage from un-self-conscious God-spark to Fully Self-conscious God" in an esoteric evolution that makes ancient Gnosticism comparatively intelligible.

The symbolism is explained by means of diagrams which are unfortunately spatio-temporal and therefore of little assistance in comprehending the mysteries of penultimate and ultimate realities, but by anyone with a developed sense of humour and a knowledge of the Freudian theory of symbolism much edification may be obtained.

There is in the historical section an over-emphasis of the importance of ancient theosophy even in Neo-Platonism and Neo-Pythagoreanism, which moderns like Whittaker are inclined to see as a natural development of Hellenic tendencies, while the statement (p. 4) that Plato was a teacher of theosophy is as ridiculous as the theory (p. 216) that Socrates was put to death for having unwittingly betrayed some of the mysteries.

The esoteric philosophy of this book can best be summed up in the terms of a famous statement on religion by an American professor: "It is to be apprehended, not comprehended."

H. A. KRESNER.

TEACHING PROCEDURES. By William Carl Ruediger. London, Harrap. Pp. 472. Price: 8s. 6d.

Professor Ruediger, whom the writer remembers when a fellow-student at Columbia University as a big, kindly, shrewd, scholarly American, is Dean of the School of Education at the George Washington University. His new book, "Teaching Procedures", may be regarded as the last word in methods of teaching as interpreted in the United States. For the most part, American pedagogy is deficient on the side of method and technique, the tendency being to shun the danger of elaborating routine ways of doing things in schools, lest the individuality and freedom of the teacher should be impaired. Moreover, the very abundance of well-arranged textbooks seems to tie the majority of teachers down to "recitation" methods. Accordingly, any reader who expects to find such a complete practical analysis of methods as may be read in the *Suggestions for Teachers* of the Consultative Committee of the Board of Education will be disappointed; but he who is looking for broad principles underlying practice will be amply rewarded.

The principle of method upon which Professor Ruediger sets the greatest store is that of "direct attack". This rather ambiguous term connotes that the interesting and significant aspects of a subject should be brought before the students first, while rules, formulæ and relationships are taken up later as may be found necessary. The "life relationships" of mathematics—how mathematics serves humanity —become the primary consideration of the mathematical teacher. Moreover, the pupil must actively participate in the "direct attack".

According to Dr. Nicholas Murray Butler, the aim of education is the gradual adjustment of the individual to social conditions. Professor Ruediger interprets this to mean that education should fit the young to do better those things that they would do in any event. Proceeding to closer grips with problems of technique, he treats inductive and deductive teaching very well indeed; and is almost equally satisfactory in the discussion of the means of conveying to pupils an appreciation of literature, art and music. A knowledge of modern functional psychology lies behind the treatment of motor control and "fixing motor responses". One of the most interesting parts of Professor Ruediger's important book deals with "activities in education", the value of which is shown, although a detached standpoint has been adopted. Other topics, including motivation, assignment and planning, the class period, meeting individual differences, guidance in study, tests and examinations, are treated with competence and at considerable length. A description is given of the Pueblo Plan, Burk's "individual system", the Winnetka Plan and the Dalton Plan of individual instruction. One misses, however, any logical attempt at an analysis of the totality of teaching procedures, which in the reviewer's opinion should represent a careful balancing of informative, affective and active pursuits.

PERCIVAL R. COLE.

NOTES AND NEWS.

UNDER the auspices of the Association a course of special lectures on "Political Aspects" will be held in the Column Room (Economics Department) at the University of Sydney at 8 p.m. on successive Wednesdays, commencing on 5th September, 1934.

Wednesday, 5th September.—Psychology and Politics: Acting Professor A. H. Martin, M.A., Ph.D.

Wednesday, 12th September.—Philosophy and Politics: Professor John Anderson, M.A.

Wednesday, 19th September.—Economics and Politics: Mr. Lloyd Ross, M.A., LL.B.

Wednesday, 26th September.—Administration and Politics: Mr. F. A. Bland, M.A., LL.B.

Admission: 1s. per lecture, or 2s. 6d. per course ticket.

Tickets are obtainable from the University Union, Dymock's, Angus & Robertson's, W.E.A. Offices (Education Department), or from the Secretary, A.A.P.P., The University.